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UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

**IN RE CAPACITORS ANTITRUST  
LITIGATION**

Master File No. 3:14-cv-03264-JD

**CONSOLIDATED CLASS ACTION  
COMPLAINT**

**THIS DOCUMENT RELATES TO:  
ALL DIRECT PURCHASER ACTIONS**

**JURY TRIAL DEMANDED**

1 Plaintiffs Chip-Tech, Ltd. (“Chip-Tech”), Dependable Component Supply Corp.  
2 (“Dependable”), eIQ Energy, Inc. (“eIQ Energy”) and Walker Component Group, Inc. (“Walker,” and  
3 together with Chip-Tech, Dependable, and eIQ, “Plaintiffs”) each bring this action on behalf of itself  
4 and on behalf of a class of all persons and entities similarly situated (the “Class” or the “Direct  
5 Purchaser Class”), for damages and injunctive relief under the antitrust laws of the United States  
6 against defendants Panasonic Corporation; Panasonic Corporation of North America; SANYO Electric  
7 Co., Ltd.; SANYO North America Corporation; NEC TOKIN Corporation; NEC TOKIN America,  
8 Inc.; KEMET Corporation; KEMET Electronics Corporation; Nippon Chemi-Con Corporation;  
9 United Chemi-Con, Inc.; Hitachi Chemical Co., Ltd.; Hitachi AIC Inc.; Hitachi Chemical Co. America,  
10 Ltd.; Fujitsu Ltd.; Fujitsu Components America, Inc.; Fujitsu Semiconductor America, Inc.; Nichicon  
11 Corporation; Nichicon (America) Corporation; FPCAP Electronics (Suzhou) Co., Ltd.; AVX  
12 Corporation; Rubycon Corporation; Rubycon America Inc.; ELNA Co., Ltd.; ELNA America Inc.;  
13 Matsuo Electric Co., Ltd.; TOSHIN KOGYO Co., Ltd.; Holy Stone Enterprise Co., Ltd.; HolyStone  
14 International; Vishay Intertechnology, Inc.; Vishay Polytech Co., Ltd.; ROHM Co., Ltd.; ROHM  
15 Semiconductor U.S.A., LLC; EPCOS AG; EPCOS Inc.; TDK-EPC Corporation; TDK U.S.A.  
16 Corporation; Okaya Electric Industries Co., Ltd.; Okaya Electric America Inc.; Taitsu Corporation;  
17 Taitsu America, Inc.; Shinyei Kaisha; Shinyei Capacitor Co., Ltd.; Shinyei Corporation of America,  
18 Inc.; Nitsuko Electronics Corporation; Nissei Electric Co., Ltd.; Soshin Electric Co., Ltd.; and Soshin  
19 Electronics of America, Inc. (collectively, the “Defendants”). Plaintiffs allege facts regarding  
20 themselves based on personal knowledge, and on information and belief as to all other factual  
21 allegations, as follows:

## 22 **NATURE OF THE ACTION**

23 1. This civil antitrust class action seeks damages and injunctive relief for the collusive and  
24 concerted restraint of trade in aluminum, tantalum and film capacitors (together, “Capacitors”)  
25 orchestrated by the Defendants—all of which are leading manufacturers and direct competitors in the  
26 global Capacitors industry—during the period from no later than January 1, 2003 to present (the “Class  
27 Period”).  
28

2. Capacitors are one of the fundamental components found in electrical circuits. All electronic devices in common use today—from the cheapest household appliances to personal computers to multi-million dollar computerized machinery—employ various electrical circuits working in concert to perform their functions. By electrical current (*i.e.*, the aggregate effect of moving electrical charge) flowing through a circuit, the path for which is usually defined by a printed circuit board (“PCB”), electronic signals can be amplified, simple and complex computations can be performed, data can be moved from one place to another, and other tasks can be executed.

3. Without the flow of electrical current, circuit boards—as well as the electronic devices that contain them—will not operate. Accordingly, circuits must not only have a source for current, but also means for storing and regulating the flow of that current. While either a battery or a connection to an external power supply typically provides current to a circuit, capacitors are integrated into electrical circuits primarily to store charge and govern its flow so that the tasks and applications of electrical devices have sufficiently available and immediately dischargeable electrical charge to perform when commanded to do so.

4. As society’s dependence on and consumption of technology has grown, so too has the demand of electronic device manufacturers for the components. Given that capacitors are fundamental to the operation of practically all electronic devices, the market for capacitors is enormous. Capacitors are commodity products sold in large volumes. Indeed, global revenues for all manufacturers in the capacitor industry in 2013 totaled approximately \$16 billion based on the sales of trillions of capacitors. Industry analysts estimate that global revenues from the sale of capacitors will reach over \$18 billion for the fiscal year 2014 and over \$20 billion by 2016.

5. Capacitors, however, tend to be relatively inexpensive on a per unit basis. The vast majority of Capacitors cost well under a dollar per unit, and typically cost as low as a fraction of a cent. Accordingly, the cost of Capacitors is usually only a relatively small (albeit potentially significant) part of the overall cost of the products containing them.

6. The multi-billion dollar market for capacitors is susceptible to anticompetitive manipulation. Given, as alleged in detail below, the significantly high barriers to entering the already mature and consolidation-prone capacitors manufacturing industry and achieving the large volume of

1 sales required to reach sufficient economies of scale and profitability on a per unit basis, global sales of  
2 capacitors are dominated by a limited number of large manufacturers. These would-be competitors—  
3 specifically the Defendants named herein—sell mutually interchangeable commoditized products and  
4 adjust the prices and market availability of their products in concert and based on an overarching  
5 agreement to fix, raise, maintain, and/or stabilize prices as described in detail below. These facts  
6 indicate that competition between the global sellers of aluminum, tantalum and film capacitors has been  
7 suppressed.

8           7. Capacitors of like capacitance, dielectric and form factor are generally mutually  
9 interchangeable. Price is therefore the chief differentiation among these products for purchasers.  
10 Accordingly, any agreement among Capacitors manufacturers to fix, raise, maintain or stabilize prices,  
11 or to reduce the supply of Capacitors, is highly likely to be effective in artificially inflating prices above  
12 those that would prevail in a competitive market to the detriment of purchasers both worldwide and in  
13 the United States.

14           8. The threat of anticompetitive manipulation for the sales of aluminum, tantalum and film  
15 capacitors is not a hypothetical concern. Defendant Panasonic Corporation, on behalf of itself and its  
16 wholly owned subsidiaries (Panasonic Corporation of North America, SANYO Electric Co., Ltd., and  
17 SANYO North America Corporation), has admitted to the United States Department of Justice  
18 (“DOJ”) that Defendants engaged in price fixing beginning no later than, January 1, 2003, and  
19 Defendants’ cartel activities were undertaken for the purpose of artificially maintaining and inflating  
20 prices of aluminum, tantalum and film capacitors sold to United States purchasers and purchasers  
21 worldwide.

22           9. Defendants took these unlawful steps because: (1) prior to the outset of the conspiracy,  
23 competition was reducing margins on Capacitors; and (2) demand for certain types of their respective  
24 Capacitors began to wane starting in the early 2000s.

25           10. To bolster the profitability of their respective Capacitors sales, and to slow, negate and  
26 reverse the impact on price caused by declining demand, Defendants agreed prior to the beginning of  
27 the Class Period to curtail price competition among themselves for their respective mutually  
28 interchangeable aluminum, tantalum and film capacitors.

1           11.     Given the weak demand for aluminum, tantalum and film capacitors the Defendants  
2 manufactured and the decline in sales and profits they each were facing across their respective  
3 Capacitors product lines, Defendants further agreed to collusively set prices for all the Capacitors they  
4 produce.

5           12.     Accordingly, beginning no later than January 1, 2003, Defendants conspired by directly  
6 and indirectly communicating with each other to implement and effectuate an overarching scheme to  
7 control and set the prices of their aluminum, tantalum and film capacitors sold to United States  
8 purchasers and purchasers worldwide. Defendants also agreed, as part of the cartel, to combine and  
9 perform the various acts necessary to achieve the anticompetitive purposes of this scheme, as well as to  
10 conceal their activity from public view and regulatory oversight.

11           13.     The Defendants' conspiracy was furthered and facilitated by a course of anticompetitive  
12 conduct and overt acts, such as making numerous agreements (both written and oral) and reaching  
13 understandings among themselves—largely developed during regular monthly, annual and/or bi-annual  
14 meetings among themselves throughout the Class Period—that they would in concert fix, raise,  
15 maintain and stabilize prices for aluminum, tantalum and film capacitors.

16           14.     Defendants also agreed to restrain their respective Capacitors manufacturing output  
17 through extending product lead times and other subterfuge.

18           15.     As part of the conspiracy alleged herein, and to assist in achieving its ends, Defendants  
19 exchanged amongst themselves nonpublic and commercially sensitive information concerning, among  
20 other things, purchaser-specific Capacitors pricing requests, current industry-specific Capacitors  
21 pricing requests, current and future Capacitors pricing intentions, timing of pricing changes, production  
22 capacity, costs, availability and cost of raw materials, product distribution, and other data that  
23 Defendants used to assist in implementation and enforcement of their conspiracy.

24           16.     Defendants concealed their anticompetitive and unlawful conduct from the public and  
25 their customers, including Plaintiffs and the Direct Purchaser Class, from the inception of the  
26 conspiracy until the spring of 2014, when law enforcement and competition authorities around the globe  
27 first publicly acknowledged their respective investigations into anticompetitive conduct in the capacitors  
28 industry.

1           17. Defendants' cartel has been successful in achieving the anticompetitive and unlawful  
2 ends for which it was formed. Through their concerted actions, Defendants—the dominant players in  
3 the global and U.S. markets for aluminum, tantalum and film capacitors—fixed, raised, maintained  
4 and/or stabilized prices of Capacitors during the entirety of the time that the Defendants' conspiracy  
5 has existed (the "Conspiracy Period"). Defendants were effective in moderating, negating and  
6 reversing the normal competitive pressures on prices for Capacitors caused by price competition,  
7 reduction of demand, technological change and oversupply.

8           18. Defendants' anticompetitive and unlawful conduct proximately caused the increase  
9 and/or slowed the decrease of prices for their Capacitors sold to United States and worldwide  
10 purchasers during the Class Period.

11           19. As a result, Plaintiffs and the Direct Purchaser Class paid artificially inflated prices for  
12 Capacitors. By paying higher prices for Capacitors than those that would have prevailed in a  
13 competitive market, Plaintiffs and the Direct Purchaser Class have been injured in their business and  
14 property and continue to suffer such injuries as a direct and proximate result of Defendants' actions.

### 15                                   **JURISDICTION AND VENUE**

16           20. Plaintiffs bring this action on behalf of themselves, as well as on behalf of the Direct  
17 Purchaser Class, to recover damages, including treble damages, costs of suit, and reasonable attorney's  
18 fees arising from Defendants' violations of Section 1 of the Sherman Act (15 U.S.C. § 1), as well as any  
19 and all equitable relief afforded them under the federal laws pleaded herein.

20           21. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1337(a) and  
21 Sections 4 and 16 of the Clayton Act (15 U.S.C. §§ 15(a) and 26).

22           22. Jurisdiction and venue are proper in this judicial district pursuant to Section 12 of the  
23 Clayton Act (15 U.S.C. § 22), and 28 U.S.C. § 1391(b), (c) and (d), because a substantial part of the  
24 events giving rise to Plaintiffs' claims occurred in this District, a substantial portion of the affected  
25 interstate trade and commerce was carried out in this District, and one or more of the Defendants reside  
26 in this District, is licensed to do business in this District, and/or transacts business in this District.

27           23. In addition, the DOJ's Antitrust Division is conducting an investigation into the  
28 capacitors industry out of the United States Attorney's Office for the District of Northern California.

1 On information and belief, based on the DOJ's past practice with regard to similar antitrust  
2 investigations, a federal criminal grand jury either has been or will soon be empaneled in the Northern  
3 District of California to hear the DOJ's evidence derived from its investigation and ultimately to decide  
4 on whether to indict any capacitors manufacturers (such as one or more of the Defendants in this  
5 antitrust class action) criminally. The DOJ's San Francisco-based capacitors industry investigation and  
6 the likely empanelment of a grand jury in this District both confirm the propriety of the Northern  
7 District of California as the venue for this antitrust class action.

8 24. Pursuant to Civil Local Rule 3.2 (c) and (e), assignment of this case to the San Francisco  
9 Division of the United States District Court for the Northern District of California is proper because  
10 the interstate trade and commerce involved and affected by Defendants' violations of the antitrust laws  
11 action was substantially conducted with, directed to or impacted Plaintiffs and members of the Direct  
12 Purchaser Class in counties located within the Division.

### 13 **PARTIES**

#### 14 **Plaintiffs**

15 25. Plaintiff Chip-Tech, Ltd. is a New York corporation with its principal place of business  
16 located at 6 Dubon Court, Farmingdale, New York 11735. Chip-Tech directly purchased Capacitors  
17 from one or more Defendants during the Class Period, and has suffered injury as a result of Defendants'  
18 anticompetitive and unlawful conduct.

19 26. Plaintiff Dependable Component Supply Corporation is a Florida corporation with its  
20 principal place of business located at 1003 East Newport Center Drive, Deerfield Beach, Florida 33442.  
21 Dependable directly purchased Capacitors from one or more Defendants during the Class Period, and  
22 has suffered injury as a result of Defendants' anticompetitive and unlawful conduct.

23 27. Plaintiff eIQ Energy, Inc. is a California corporation with its principal place of business at  
24 6389 San Ignacio Avenue, San Jose, California 95119. eIQ Energy directly purchased certain types of  
25 Capacitors from one or more Defendants during the Class Period, and has suffered injury as a result of  
26 Defendants' anticompetitive and unlawful conduct.

27 28. Plaintiff Walker Component Group, Inc. is a Colorado corporation with its principal  
28 place of business located at 420 East 58th Avenue, Denver, Colorado 80216. Walker directly purchased

Capacitors from one or more Defendants during the Class Period, and has suffered injury as a result of Defendants' anticompetitive and unlawful conduct.

### **Defendants**

#### **Panasonic/SANYO**

29. Defendant Panasonic Corporation is a Japanese corporation with its principal place of business located at 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501, Japan. Until October 1, 2008, Panasonic Corporation operated under the name of Matsushita Electric Industrial Co., Ltd. ("Matsushita"). During the Class Period, Matsushita and Panasonic (together, "Panasonic") manufactured, sold and distributed aluminum and/or tantalum and/or film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

30. Defendant Panasonic Corporation of North America ("PCNA"), a wholly owned subsidiary of Panasonic, is a Delaware corporation with its principal place of business located at Two Riverfront Plaza, Newark, New Jersey 07102. During the Class Period, PCNA—either directly or through its business units, subsidiaries, agents or affiliates (including, without limitation, Panasonic Industrial Sales Company)—sold and distributed to United States purchasers aluminum and/or tantalum and/or film capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Panasonic.

31. Defendant SANYO Electric Co., Ltd. ("SANYO"), a Japanese corporation, is, as of December 2009, a wholly owned subsidiary of Panasonic, with its principal place of business located at 15-5, Keihan-Hondori, 2-Chome, Moriguchi City, Osaka 570-8677, Japan. During the Class Period, SANYO manufactured, sold and distributed aluminum and/or tantalum capacitors, either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers. Prior to its acquisition by Panasonic in December 2009, SANYO had no corporate affiliation with Panasonic or its business units, subsidiaries, agents or affiliates.

32. Defendant SANYO North America Corporation ("SANYO NA"), a Delaware corporation, is a wholly owned subsidiary of SANYO, with its principal place of business located at 2055 Sanyo Avenue, San Diego, California 92154. During the Class Period, SANYO NA—either directly or through its business units, subsidiaries, agents or affiliates—sold and distributed to United States

1 purchasers aluminum and/or tantalum capacitors manufactured by business units, subsidiaries, agents  
2 or affiliates of its corporate parent, SANYO.

3 33. Defendants Panasonic and PCNA are together referred to herein as the “Panasonic  
4 Defendants.” Defendants SANYO and SANYO NA are together referred to herein as the “SANYO  
5 Defendants,” and, together with the Panasonic Defendants, the entities are referred to herein as  
6 “Panasonic/SANYO.”

7 **NEC TOKIN Defendants**

8 34. Defendant NEC TOKIN Corporation (“NEC TOKIN”), a Japanese company currently  
9 partially owned by both Defendant KEMET Electronics Corporation and non-party NEC Corporation,  
10 has its principal place of business located at 7-1, Kohriyama 6-chome, Taihaku-ku, Sendai-shi, Miyagi  
11 982-8510, Japan. During the Class Period, NEC TOKIN manufactured, sold, and distributed aluminum  
12 and/or tantalum capacitors either directly or through its business units, subsidiaries, agents or affiliates  
13 to United States purchasers.

14 35. Defendant NEC TOKIN America, Inc. (“NEC TOKIN America”), a California  
15 corporation, is a wholly owned subsidiary of NEC TOKIN with its principal place of business located at  
16 2460 North First Street, Suite 220, San Jose, California 95131. During the Class Period, NEC TOKIN  
17 America—either directly or through its business units, subsidiaries, agents or affiliates—sold and  
18 distributed to United States purchasers aluminum and/or tantalum capacitors manufactured by business  
19 units, subsidiaries, agents or affiliates of its corporate parent, NEC TOKIN.

20 36. Defendants NEC TOKIN and NEC TOKIN America are together referred to herein as  
21 the “NEC TOKIN Defendants.”

22 **KEMET Defendants**

23 37. Defendant KEMET Corporation (“KEMET”) is a Delaware corporation with its  
24 principal place of business located at 2835 Kemet Way, Simpsonville, South Carolina 29681. During the  
25 Class Period, KEMET manufactured, sold and distributed aluminum and/or tantalum and/or film  
26 capacitors either directly or through its business units, subsidiaries, agents or affiliates, to United States  
27 purchasers.  
28

1           38. Defendant KEMET Electronics Corporation (“KEC”), a Delaware corporation, is a  
2 wholly owned subsidiary of KEMET with its principal place of business located at 2835 Kemet Way,  
3 Simpsonville, South Carolina 29681. During the Class Period, KEC—either directly or through its  
4 business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers  
5 aluminum and/or tantalum and/or film capacitors manufactured by its own business units, subsidiaries,  
6 agents or affiliates, or those of its corporate parent, KEMET.

7           39. On or about March 12, 2012, KEC publicly announced that it had entered into a Stock  
8 Purchase Agreement with NEC TOKIN and non-party NEC Corporation in which it agreed to  
9 purchase a 34% economic interest in NEC TOKIN (the remainder being held by NEC Corporation) that  
10 affords KEC a 51% voting interest in the company, and thus the right to appoint four of the seven  
11 members on NEC TOKIN’s board of directors. KEC also entered into an Option Agreement with  
12 NEC TOKIN and NEC Corporation that provided KEC with two call options that, if exercised, would  
13 allow it to purchase all of NEC Corporation’s economic interests and voting rights in NEC TOKIN,  
14 thereby effecting KEC’s complete acquisition of NEC TOKIN.

15           40. KEC’s interest in NEC TOKIN provided KEC the opportunity to sell NEC TOKIN  
16 capacitors, among other things, directly to United States purchasers. For example, KEC was able to  
17 ship NEC TOKIN-manufactured tantalum capacitors directly from NEC TOKIN factories, and these  
18 capacitors were sold using KEMET part numbers, labeled with KEMET labels, and invoiced through  
19 KEMET. By January 2014, KEC publicly announced that it had “completed the integration of  
20 advanced components from NEC TOKIN” into its sales structure, thereby giving KEC the ability to  
21 sell NEC TOKIN’s aluminum and/or tantalum capacitors directly to KEC’s customers.

22           41. Accordingly, in addition to selling to United States purchasers its own aluminum and/or  
23 tantalum and/or film capacitors manufactured by certain of its own business units, subsidiaries, agents  
24 or affiliates or those of its corporate parent, KEMET, KEC has, since early 2012, sold and distributed  
25 NEC TOKIN’s aluminum and/or tantalum capacitors, directly or through its business units,  
26 subsidiaries, agents or affiliates, to United States purchasers.

27           42. Having acquired and maintained a controlling majority voting interest in NEC TOKIN,  
28 KEMET has, since at least March 2012, had the authority to manage and operate NEC TOKIN,

1 including but not limited to its corporate strategy and its Capacitor business. During the Class Period,  
2 KEMET became aware of the cartel and NEC TOKIN's participation in it. From 2012 to present,  
3 NEC TOKIN—while under KEMET's control—has continued to participate in the cartel's collusive  
4 actions to fix, raise, maintain, or stabilize prices for Capacitors. During this period, neither the  
5 managing officers or directors of KEMET nor the managing officers or directors of NEC TOKIN  
6 instructed or directed NEC TOKIN to withdraw from Defendants' price fixing cartel and the  
7 conspiracy. By acquiescing in NEC TOKIN's continued cartel activity, as well as failing to disclose or  
8 otherwise concealing NEC TOKIN's cartel activity, failing to cause NEC TOKIN to terminate its  
9 cartel activity and failing to cause NEC TOKIN to withdraw from the cartel, KEMET joined and  
10 actively participated in Defendants' conspiracy and committed overt acts in furtherance of the  
11 conspiracy.

12 43. Defendants KEMET and KEC are together referred to herein as the "KEMET  
13 Defendants."

14 **Nippon Chemi-Con Defendants**

15 44. Defendant Nippon Chemi-Con Corporation ("Nippon Chemi-Con") is a Japanese  
16 corporation with its principal place of business located at 5-6-4, Osaki, Shinagawa-ku, Tokyo 141-8605,  
17 Japan. During the Class Period, Nippon Chemi-Con manufactured, sold, and distributed aluminum  
18 and/or film capacitors either directly or through its business units, subsidiaries, agents or affiliates to  
19 United States purchasers.

20 45. Defendant United Chemi-Con Corporation ("UCC"), an Illinois Corporation, is a  
21 wholly owned subsidiary of Nippon Chemi-Con with its principal place of business located at 9801 West  
22 Higgins Road, Rosemont, Illinois 60018. During the Class Period, UCC—either directly or through  
23 certain of its business units, subsidiaries, agents or affiliates, or those of its corporate parent, Nippon  
24 Chemi-Con—manufactured, sold and distributed aluminum and/or film capacitors to United States  
25 purchasers.

26 46. Defendants Nippon Chemi-Con and UCC are together referred to herein as the  
27 "Nippon Chemi-Con Defendants."  
28

**Hitachi Chemical Defendants**

47. Defendant Hitachi Chemical Co., Ltd. (“Hitachi Chemical”), is a Japanese corporation with its principal place of business located at Grantokyo South Tower, 1-9-2, Marunouchi, Chiyoda-ku, Tokyo 100-6606, Japan. During the Class Period, Hitachi Chemical manufactured, sold, and distributed aluminum and/or tantalum and/or film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

48. Defendant Hitachi AIC Inc. (“Hitachi AIC”), a Japanese corporation, is a wholly owned subsidiary of Hitachi Chemical with its principal place of business located at 1065, Kugeta, Moka-Shi Tochigi 321-4521, Japan. During the Class Period, Hitachi AIC—either directly or through its divisions, business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers aluminum and/or tantalum and/or film capacitors manufactured by its own business units, subsidiaries, agents or affiliates, or those of its corporate parent, Hitachi Chemical.

49. In or about December 2009, Hitachi AIC sold its tantalum and niobium capacitors division to Defendant Holy Stone Enterprise Co., Ltd. The acquisition was completed by or about April 1, 2010, and the tantalum and niobium capacitors division was renamed Holy Stone Polytech Co., Ltd., a Japanese corporation and wholly owned subsidiary of Holy Stone Enterprise Co., Ltd. To the extent that any of the assets or liabilities of Hitachi AIC’s tantalum and niobium capacitors division remain in whole or in part with Hitachi AIC subsequent to the tantalum and niobium capacitors division’s sale to Holy Stone, Plaintiffs intend to hold Hitachi AIC liable for any of this business division’s violations of Sherman Act § 1 that occurred during the Class Period.

50. Defendant Hitachi Chemical Co. America, Ltd. (“Hitachi Chemical America”), a New York corporation, is a wholly owned subsidiary of Hitachi Chemical with its principal place of business located at 10080 North Wolfe Road, Suite SW3-200, Cupertino, California 95014. During the Class Period, Hitachi Chemical America—either directly or through its business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers aluminum and/or tantalum capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Hitachi Chemical (including, without limitation, Hitachi AIC).

1           51. Defendants Hitachi Chemical, Hitachi AIC and Hitachi Chemical America are together  
2 referred to herein as the “Hitachi Chemical Defendants.”

3           **Fujitsu Defendants**

4           52. Defendant Fujitsu Ltd. (“Fujitsu”) is a Japanese corporation with its principal place of  
5 business located at Shiodome City Center, 1-5-2 Higashi-Shimbashi, Minato-ku, Tokyo 105-7123, Japan.  
6 During the Class Period, Fujitsu manufactured, sold, and distributed aluminum and/or tantalum and/or  
7 film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United  
8 States purchasers.

9           53. Fujitsu, either directly or through its business units, subsidiaries, agents or affiliates  
10 (including, without limitation, the now-dissolved Fujitsu Media Devices, Ltd. (“FMD”) for which  
11 Fujitsu and/or certain of its business units, subsidiaries or affiliates is a successor in interest),  
12 manufactured, sold and distributed conductive polymer aluminum solid electrolytic capacitors until in  
13 or about October 2008. After October 2008, the business unit responsible for manufacturing, selling  
14 and distributing these types of capacitors (Fujitsu Media Devices (Suzhou) Ltd. (“FMD Suzhou”)) was  
15 acquired in whole by Defendant Nichicon Corporation. To the extent that the assets and liabilities of  
16 FMD Suzhou remain in whole or in part with Fujitsu subsequent to FMD Suzhou’s sale to Nichicon,  
17 Plaintiffs intend to hold Fujitsu liable for any of FMD Suzhou’s violations of Sherman Act § 1 that  
18 occurred during the Class Period.

19           54. Defendant Fujitsu Components America, Inc. (“Fujitsu Components America”), a  
20 California corporation, is a wholly owned subsidiary of Fujitsu with its principal place of business  
21 located at 250 East Caribbean Drive, Sunnyvale, California 94089. During the Class Period, Fujitsu  
22 Components America—either directly or through its business units, subsidiaries, agents or affiliates—  
23 sold and distributed to United States purchasers aluminum and/or tantalum and/or film capacitors  
24 manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Fujitsu.

25           55. Defendant Fujitsu Semiconductor America, Inc. (“Fujitsu Semicon America”), a  
26 California corporation, is a wholly owned subsidiary of Fujitsu with its principal place of business  
27 located at 1250 East Arques Avenue, M/S 333, Sunnyvale, California 94085-5401. During the Class  
28 Period, Fujitsu Semicon America—either directly or through its business units, subsidiaries, agents or

1 affiliates—sold and distributed to United States purchasers aluminum and/or tantalum and/or film  
2 capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent,  
3 Fujitsu.

4 56. Defendants Fujitsu, Fujitsu Components America and Fujitsu Semicon America are  
5 together referred to herein as the “Fujitsu Defendants.”

6 **Nichicon Defendants**

7 57. Defendant Nichicon Corporation (“Nichicon”) is a Japanese corporation with its  
8 principal place of business located at Karasumadori Oike-agaru, Nakagyo-ku, Kyoto 604-0845, Japan.  
9 During the Class Period and until the company’s sale of its tantalum capacitors division to Defendant  
10 AVX Corporation in or about February 2013, Nichicon manufactured, sold, and distributed tantalum  
11 capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States  
12 purchasers. During the entire Class Period, Nichicon also manufactured, sold and distributed  
13 aluminum and/or film capacitors, either directly or through its business units, subsidiaries, agents or  
14 affiliates, to United States purchasers. To the extent that the assets and liabilities of Nichicon’s  
15 tantalum capacitors division remain in whole or in part with Nichicon subsequent to the division’s sale  
16 to AVX, Defendants intend to hold Nichicon liable for any of the tantalum capacitors division’s  
17 violations of Sherman Act § 1 that occurred during the Class Period.

18 58. Defendant Nichicon (America) Corporation (“Nichicon America”), an Illinois  
19 corporation, is a wholly owned subsidiary of Nichicon with its principal place of business located at 927  
20 East State Parkway, Schaumburg, Illinois 60173. During the Class Period and until Nichicon’s sale of its  
21 tantalum capacitors division to Defendant AVX Corporation in or about February 2013, Nichicon  
22 America— either directly or through its business units, subsidiaries, agents or affiliates—sold and  
23 distributed to United States purchasers tantalum capacitors manufactured by business units,  
24 subsidiaries, agents or affiliates of its corporate parent, Nichicon. During the entire Class Period,  
25 Nichicon America— either directly or through its business units, subsidiaries, agents or affiliates—sold  
26 and distributed to United States purchasers aluminum and/or film capacitors manufactured by business  
27 units, subsidiaries, agents or affiliates of its corporate parent, Nichicon.  
28

59. Defendant FPCAP Electronics (Suzhou) Co., Ltd. (“FPCAP”), a Japanese corporation, is a wholly owned subsidiary of Nichicon with its principal place of business located at 112 Sutong Road, Suzhou Industrial Park, Jiangsu, 215021, China. Having operated as FMD’s conductive polymer aluminum solid electrolytic capacitor business division (*i.e.*, FMD Suzhou) until in or about October 2008, FPCAP thereafter was acquired and renamed by Nichicon. From in or about October 2008 to date, FPCAP manufactured, sold and distributed aluminum capacitors to United States purchasers, either directly or through its business units, subsidiaries, agents or affiliates, or those of its corporate parent, Nichicon.

60. By Nichicon having purchased FMD Suzhou from FMD and subsequently organized the entity as its subsidiary (*i.e.*, FPCAP), FCPAP is the successor in interest to all assets of FMD Suzhou, as well as the liabilities arising from FMD Suzhou’s violations of Sherman Act § 1 that occurred during the Class Period. FPCAP is a mere continuation of FMD Suzhou as it was organized and operated during the period it was a business unit of FMD. The change of FMD Suzhou’s ownership did not impact the continuity of its management, personnel, physical locations, business, assets, and general business operations. Accordingly, FPCAP has assumed liability from FMD Suzhou and/or FMD for the cartel activity that originated at FMD Suzhou during the Class Period and has continued to date to be authorized and directed by FPCAP’s officers, executives and employees following the acquisition.

61. By acquiring FMD Suzhou, Nichicon has effectively purchased a participant in the unlawful cartel alleged herein and has thereby joined and participated in Defendants’ conspiracy through FPCAP’s acts taken in furtherance of the conspiracy.

62. Defendants Nichicon, Nichicon America and FPCAP are together referred to herein as the “Nichicon Defendants.”

### **AVX**

63. Defendant AVX Corporation (“AVX”) is a Delaware corporation with its principal place of business located at One AVX Boulevard, Fountain Inn, South Carolina 29644. It is a subsidiary of non-party Kyocera Corporation, a Japanese corporation that owns approximately 72% of AVX’s outstanding common stock. During the Class Period, AVX manufactured, sold, and distributed

1 tantalum and/or film capacitors either directly or through its business units, subsidiaries, agents or  
2 affiliates to United States purchasers.

3 64. In or about February 2013, AVX acquired Nichicon's tantalum capacitor production  
4 facilities in Japan and China, thereby expanding AVX's global tantalum capacitor manufacturing  
5 operations. Accordingly, after February 2013, AVX—either directly or through its business units,  
6 subsidiaries, agents or affiliates—manufactured, sold and distributed tantalum capacitors produced by  
7 Nichicon's former tantalum electrolytic capacitors division to United States purchasers.

8 65. Having purchased Nichicon's former tantalum electrolytic capacitors division, AVX is  
9 the successor in interest to all assets of this former Nichicon business unit, as well as the liabilities  
10 arising from its violations of Sherman Act § 1 that occurred during the Class Period. The business unit  
11 acquired by AVX from Nichicon is a mere continuation of the unit as it was organized and operated  
12 during the period it was a business unit of Nichicon. The change of ownership of this business unit did  
13 not impact the continuity of its management, personnel, physical locations, business, assets, and general  
14 business operations. Accordingly, AVX has assumed liability for the cartel activity that originated in this  
15 business unit during the Class Period while it was part of Nichicon and has continued to date to be  
16 authorized and directed by AVX's officers, executives and employees following the business unit's  
17 acquisition.

18 66. By acquiring Nichicon's former tantalum electrolytic capacitors division, AVX has  
19 effectively purchased a participant in the unlawful cartel alleged herein and has thereby joined and  
20 participated in Defendants' conspiracy through this business unit's acts taken in furtherance of the  
21 conspiracy.

### 22 **Rubycon Defendants**

23 67. Defendant Rubycon Corporation ("Rubycon") is a Japanese corporation with its  
24 principal place of business located at 1938-1, Nishi-Minowa, Ina-City, Nagano 399-4593, Japan. During  
25 the Class Period, Rubycon manufactured, sold, and distributed aluminum and/or film capacitors either  
26 directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

27 68. Defendant Rubycon America Inc. ("Rubycon America"), an Illinois corporation, is a  
28 wholly owned subsidiary of Rubycon with its principal place of business located at 4293 Lee Avenue,

1 Gurnee, Illinois 60031. During the Class Period, Rubycon America—either directly or through its  
2 business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers  
3 aluminum and/or film capacitors manufactured by business units, subsidiaries, agents or affiliates of its  
4 corporate parent, Rubycon.

5 69. Defendants Rubycon and Rubycon America are together referred to herein as the  
6 “Rubycon Defendants.”

7 **ELNA Defendants**

8 70. Defendant ELNA Co., Ltd. (“ELNA”), is a Japanese corporation with its principal place  
9 of business located at 3-8-11 Shin-Yokohama, Kohoku-ku, Yokohama, Kanagawa Prefecture 222-0033,  
10 Japan. During the Class Period, ELNA manufactured, sold, and distributed aluminum and/or film  
11 capacitors either directly or through its business units, subsidiaries, agents or affiliates, to United States  
12 purchasers.

13 71. Defendant ELNA America Inc. (“ELNA America”) a California corporation, is a wholly  
14 owned subsidiary of ELNA with its principal place of business located at 879 West 190<sup>th</sup> Street, Suite  
15 100, Gardena, California 90248. During the Class Period, ELNA America—either directly or through  
16 its business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers  
17 aluminum and/or film capacitors manufactured by business units, subsidiaries, agents or affiliates of its  
18 corporate parent, ELNA.

19 72. Defendants ELNA and ELNA America are together referred to herein as the “ELNA  
20 Defendants.”

21 **Matsuo**

22 73. Defendant Matsuo Electric Co., Ltd. (“Matsuo”) is a Japanese corporation with its  
23 principal place of business located at 3-5- Sennari-cho, Toyonaka-shi, Osaka 561-8558, Japan. During  
24 the Class Period, Matsuo manufactured, sold and distributed aluminum and/or tantalum and/or film  
25 capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States  
26 purchasers.

1                   **TOSHIN KOGYO**

2           74.     Defendant TOSHIN KOGYO Co., Ltd. (“TOSHIN KOGYO”) is a Japanese  
3     corporation with its principal place of business at Tsukasa Bldg. 2-15-4, Uchikanda Chiyoda-ku, Tokyo,  
4     Japan. During the Class Period, TOSHIN KOGYO manufactured, sold, and distributed aluminum  
5     and/or tantalum and/or film capacitors either directly or through its business units, subsidiaries, agents  
6     or affiliates, to United States purchasers.

7                   **Holy Stone Defendants**

8           75.     Defendant Holy Stone Enterprise Co., Ltd. (“Holy Stone”) is a Taiwanese corporation  
9     with its principal place of business at 1 Floor, No. 62, Sec. 2, Huang Shan Road, Nei Hu District, Taipei,  
10    Taiwan. From in or about December 2009 until on or about June 11, 2014, Holy Stone manufactured,  
11    sold and distributed tantalum capacitors, either directly or through its business units, subsidiaries,  
12    agents or affiliates to United States purchasers.

13          76.     In or about December 2009, Holy Stone publicly announced its acquisition of Hitachi  
14    AIC’s tantalum and niobium capacitors division. The acquisition was completed by or about April 1,  
15    2010, and the tantalum and niobium capacitors division was renamed Holy Stone Polytech Co., Ltd.  
16    (“Holy Stone Polytech”), a Japanese corporation and wholly owned subsidiary of Holy Stone with its  
17    principal place of business located at Ohdaira, Miharu, Fukushima 963-7704, Japan. On or about June  
18    11, 2014, Defendant Vishay Intertechnology, Inc. announced its acquisition of Holy Stone Polytech from  
19    Holy Stone. From in or about December 2009 until on or about June 11, 2014, Holy Stone Polytech—  
20    either directly or through its business units, subsidiaries, agents or affiliates, or those of its corporate  
21    parent, Holy Stone—manufactured, sold and distributed tantalum capacitors to United States  
22    purchasers. To the extent that the assets and liabilities of Holy Stone Polytech remain in whole or in  
23    part with Holy Stone subsequent to its sale to Vishay, Defendants intend to hold Holy Stone liable for  
24    any of Holy Stone Polytech’s violations of Sherman Act § 1 that occurred during the Class Period.

25          77.     Defendant HolyStone International (“HolyStone International”)—which publicly claims  
26    to be a “subsidiary company” of Holy Stone—is a business entity with its principal place of business  
27    located at 41700 Ivy Street, Suite D, Murrieta, California 92562. HolyStone International is not  
28    registered with the California Secretary of State as either a foreign or domestic corporate entity but

maintains a website identifying itself as Holy Stone’s “direct sales office for North America.” From in or about December 2009 until on or about June 11, 2014, HolyStone International— either directly or through its business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers tantalum capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Holy Stone (including, without limitation, Holy Stone Polytech).

78. Holy Stone, Holy Stone Polytech (following its establishment as a wholly owned subsidiary of Holy Stone until its acquisition by Vishay Intertechnology) and HolyStone International are together referred to herein as the “Holy Stone Defendants.”

**Vishay Defendants**

79. Defendant Vishay Intertechnology, Inc. (“Vishay”) is a Delaware corporation with its principal place of business located at 63 Lancaster Avenue, Malvern, Pennsylvania 19355. During the Class Period, Vishay manufactured, sold, and distributed aluminum and/or tantalum and/or film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

80. On or about June 11, 2014, Vishay announced its acquisition of Holy Stone Polytech from Holy Stone. Holy Stone Polytech, now renamed as Vishay Polytech Co., Ltd. (“Vishay Polytech”) is a Japanese corporation and a wholly owned subsidiary of Vishay with its principal place of business located at Ohdaira, Miharu, Fukushima 963-7704, Japan. From on or about June 11, 2014 to date, Vishay Polytech— either directly or through the business units, subsidiaries, agents or affiliates of its corporate parent, Vishay—manufactured, sold and distributed tantalum capacitors to United States purchasers.

81. By Vishay having purchased Holy Stone Polytech from Holy Stone and subsequently organized the entity as its subsidiary (*i.e.*, Vishay Polytech), Vishay Polytech is the successor in interest to all assets of Holy Stone Polytech, as well as the liabilities arising from Holy Stone Polytech’s violations of Sherman Act § 1 that occurred during the Class Period. Vishay Polytech is a mere continuation of Holy Stone Polytech as it was organized and operated during the period it was a business unit of Holy Stone. The change of Holy Stone Polytech’s ownership did not impact the continuity of its management, personnel, physical locations, business, assets, and general business operations.

1 Accordingly, Vishay Polytech has assumed liability from Holy Stone Polytech and/or Holy Stone for the  
2 cartel activity that originated at Holy Stone Polytech during the Class Period and has continued to date  
3 to be authorized and directed by Vishay Polytech's officers, executives and employees following the  
4 acquisition.

5 82. By acquiring Holy Stone Polytech, Vishay has effectively purchased a participant in the  
6 unlawful cartel alleged herein and has thereby joined and participated in Defendants' conspiracy  
7 through Vishay Polytech's acts taken in furtherance of the conspiracy.

8 83. Vishay and Vishay Polytech are together referred to herein as the "Vishay Defendants."

9 **ROHM Defendants**

10 84. Defendant ROHM Co., Ltd. ("ROHM") is a Japanese corporation with its principal  
11 place of business located at 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan. During the Class  
12 Period, ROHM manufactured, sold, and distributed tantalum and/or film capacitors either directly or  
13 through its business units, subsidiaries, agents or affiliates to United States purchasers.

14 85. Defendant ROHM Semiconductor U.S.A., LLC ("ROHM Semicon USA"), a Delaware  
15 limited liability corporation, is a subsidiary of ROHM with its principal place of business located at 2323  
16 Owen Street, Suite 150, Santa Clara, California 95054. During the Class Period, ROHM Semicon  
17 USA— either directly or through its business units, subsidiaries, agents or affiliates—sold and  
18 distributed to United States purchasers tantalum and/or film capacitors manufactured by certain  
19 business units, subsidiaries, agents or affiliates of its corporate parent, ROHM.

20 86. Defendants ROHM and ROHM Semicon USA, are together referred to herein as the  
21 "ROHM Defendants."

22 **EPCOS/TDK**

23 87. EPCOS AG ("EPCOS") is a German corporation with its principal place of business  
24 located at St-Martin-Strasse 53, 81669 Munich, Germany. During the Class Period, EPCOS—either  
25 directly or through its own business units, subsidiaries, agents or affiliates—manufactured, sold and  
26 distributed aluminum and/or tantalum and/or film capacitors to United States purchasers.

27 88. EPCOS Inc. ("EPCOS Inc."), a Delaware corporation, is a wholly owned subsidiary of  
28 EPCOS AG with its principal place of business located at 485-B Route 1 South, Suite 200, Iselin, New

Jersey 08830. During the Class Period, EPCOS Inc.—either directly or through its own business units, subsidiaries, agents or affiliates, or those of its corporate parent, EPCOS—manufactured, sold and distributed aluminum and/or tantalum and/or film capacitors to United States purchasers.

89. TDK-EPC Corporation (TDK-EPC”), a Japanese corporation, is a wholly owned subsidiary of TDK Corporation with its principal place of business located at Shibaura Renasite Tower, 3-9-1 Shibaura, Minato-ku, Tokyo 108-0023, Japan. TDK-EPC Corporation was founded on October 1, 2009 from the combination of the passive components businesses of TDK and non-party EPCOS AG, a German corporation. During the Class Period, TDK-EPC Corporation manufactured, sold and distributed aluminum and/or film capacitors either directly or through its own business units, subsidiaries, agents or affiliates to United States purchasers.

90. Defendant TDK U.S.A. Corporation (TDK USA), a New York corporation, is a wholly owned subsidiary of TDK Corporation with its principal place of business located at 525 RXR Plaza, Uniondale, New York 11556. During the Class Period, TDK U.S.A Corporation— either directly or through its business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers aluminum and/or film capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, TDK Corporation (including, without limitation, TDK-EPC).

91. Defendants EPCOS and EPCOS Inc., TDK-EPC and TDK USA are together referred herein as “EPCOS/TDK.”

#### **Okaya Defendants**

92. Defendant Okaya Electric Industries Co., Ltd. (“Okaya”) is a Japanese corporation with its principal place of business located at 16-9, Todoroki 6 chome, Setagaya-ku, Tokyo 158-8543, Japan. During the Class Period, Okaya manufactured, sold and distributed film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

93. Defendant Okaya Electric America Inc. (“Okaya America”), an Indiana corporation, is a wholly owned subsidiary of Okaya with its principal place of business located at 52 Marks Road, Suite 1, Valparaiso, Indiana 46383. During the Class Period, Okaya America— either directly or through its business units, subsidiaries, agents or affiliates—sold and distributed to United States purchasers film

capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Okaya.

94. Defendants Okaya and Okaya America are together referred to herein as the “Okaya Defendants.”

**Taitso Defendants**

95. Defendant Taitso Corporation (“Taitso”) is a Japanese corporation with its principal place of business located at 2-23-20, Kizuki, Nakahara-ku, Kawasaki, Kanagawa 211-0025, Japan. During the Class Period, Taitso manufactured, sold and distributed film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

96. Defendant Taitso America, Inc. (“Taitso America”), a California corporation, is a wholly owned subsidiary of Taitso with its principal place of business located at 6160 Mission Gorge Road, Suite 100, San Diego, California 92120. During the Class Period, Taitso America— either directly or through its business units, subsidiaries, agents or affiliates— sold and distributed to United States purchasers film capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Taitso.

97. Defendants Taitso and Taitso America are together referred to herein as the “Taitso Defendants.”

**Shinyei Defendants**

98. Defendant Shinyei Kaisha (“Shinyei”) is a Japanese corporation with its principal place of business located at 77-1 Kyomachi, Chuo-ku, Kobe 651-0178, Japan. During the Class Period, Shinyei manufactured, sold and distributed film capacitors either directly or through its business units, subsidiaries, agents or affiliates to United States purchasers.

99. Defendant Shinyei Capacitor Co., Ltd. (“Shinyei Capacitor”) is a Japanese corporation and a corporate “affiliate” of Shinyei with its principal place of business located at Shinagawa Crystal Square 11F, 1-6-41 Konan, Minato-ku, Tokyo 108-0075, Japan. During the Class Period, Shinyei Capacitor— either directly or through its business units, subsidiaries, agents or affiliates— manufactured, sold and distributed to United States purchasers film capacitors manufactured by its own business units, subsidiaries, agents or affiliates, or those of Shinyei.

100. Defendant Shinyei Corporation of America, Inc. (“Shinyei America”) is a Delaware corporation and a corporate “affiliate” of Shinyei with its principal place of business located at 1120 Avenue of the Americas, 4<sup>th</sup> Floor, New York, New York 10036. During the Class Period, Shinyei America—either directly or through its own business units, subsidiaries, agents and affiliates or those of Shinyei—sold and distributed to United States purchasers film capacitors manufactured either directly by Shinyei or through Shinyei’s business units, subsidiaries, agents and affiliates (including, without limitation, Shinyei Capacitors).

101. Defendants Shinyei, Shinyei Capacitor and Shinyei America are together referred to herein as the “Shinyei Defendants.”

**Nitsuko**

102. Defendant Nitsuko Electronics Corporation (“Nitsuko”) is a Japanese corporation with its principal place of business located at 2031-1, Ogawara, Suzaka-shi, Nagano-ken, 382-0071, Japan. During the Class Period, Nitsuko either directly or through its business units, subsidiaries and affiliates, manufactured, sold and distributed film capacitors to United States purchasers.

**Nissei**

103. Defendant Nissei Electric Co. Ltd. (“Nissei”) is a Japanese corporation with its principal place of business located at 1509-17 Okubo-cho, Nishi-ku, Hamamatsu-shi, Shizuoka-ken 432-8006, Japan. During the Class Period, Nissei either directly or through its business units, subsidiaries agents and affiliates, manufactured, sold and distributed film capacitors to United States purchasers.

**Soshin Defendants**

104. Defendant Soshin Electric Co., Ltd. (“Soshin”) is a Japanese corporation with its principal place of business located at 3-13-16, Mita, Minato-ku, Tokyo 108-8322, Japan. During the Class Period, Soshin either directly or through its business units, subsidiaries, agents and affiliates, manufactured, sold or distributed film capacitors to United States purchasers.

105. Defendant Soshin Electronics of America Inc. (“Soshin America”), a California corporation, is a wholly owned subsidiary of Soshin with its principal place of business located at 2520 Mission College Boulevard #104, Santa Clara, California 95054. During the Class Period, Soshin America— either directly or through its business units, subsidiaries, agents or affiliates—sold and

distributed to United States purchasers film capacitors manufactured by business units, subsidiaries, agents or affiliates of its corporate parent, Soshin.

106. Defendants Soshin and Soshin America are referred to collectively herein as “Soshin.”

107. Collectively, the parties named in paragraphs 29 to 106 are referred to herein as “Defendants.”

### **CO-CONSPIRATORS AND AGENTS**

108. The anticompetitive and unlawful acts alleged against the Defendants in this class action complaint were authorized, ordered or performed by Defendants and their respective directors, officers, agents, employees, or representatives, while actively engaged in the management, direction, or control of Defendants’ businesses or affairs.

109. Various persons and/or firms not named as Defendants herein may have participated as co-conspirators in the violations alleged herein and may have performed acts and made statements in furtherance thereof.

110. Each Defendant acted as the principal, agent or joint venturer of, or for other Defendants with respect to the acts, violations, and common course of conduct alleged herein. In particular, each Defendant headquartered outside the United States relied on their agents in the United States (wholly owned or otherwise) to implement, enforce and conceal the cartel through their global sales and marketing systems. In so doing, Defendants’ agents acted within the scope of their agency relationship with their own principals in the United States and abroad.

### **CLASS ALLEGATIONS**

111. Plaintiffs bring this action on behalf of themselves and as a class action pursuant to Federal Rules of Civil Procedure, Rule 23(a), (b)(2) and (b)(3), on behalf of a similarly situated Class, which is defined as follows:

All persons in the United States that purchased Capacitors (including through controlled subsidiaries, agents, affiliates or joint-ventures) directly from any of the Defendants, their subsidiaries, agents, affiliates or joint ventures from January, 1, 2003 through the present (the “Class Period”).

112. The Direct Purchaser Class definition encompasses those who purchased aluminum and/or tantalum and/or film capacitors directly from any of the Defendants, even if the Capacitors

1 purchased were manufactured, sold or distributed by a given Defendant's predecessors, parents,  
2 business units, subsidiaries, affiliated entities, principals, agents or co-conspirators.

3 113. This definition of the Direct Purchaser Class specifically excludes the following persons  
4 or entities:

- 5 a. Any of the Defendants named herein;
- 6 b. Any of the Defendants' co-conspirators;
- 7 c. Any of Defendants' parent companies and their subsidiaries, agents or affiliates;
- 8 d. Any of Defendants' officers, directors, management, employees, subsidiaries, agents  
9 or affiliates;
- 10 e. All governmental entities; and
- 11 f. The judges and chambers staff in this case, as well as any members of their  
12 immediate families.

13 114. Plaintiffs do not know the exact number of Direct Purchaser Class members, because  
14 such information is in the exclusive control of Defendants. Plaintiffs are informed and believe that, due  
15 to the nature of the trade and commerce involved, there are thousands of Direct Purchaser Class  
16 members geographically dispersed throughout the United States and elsewhere, such that joinder of all  
17 Class members in the prosecution of this action is impracticable.

18 115. Plaintiffs' claims are typical of the claims of their fellow Class members because Plaintiffs  
19 directly purchased aluminum, tantalum and film capacitors from certain of the Defendants named  
20 herein, Plaintiffs and all Direct Purchaser Class members were damaged by the same wrongful conduct  
21 of Defendants as alleged herein, and the relief sought herein is common to all members of the Class.

22 116. Numerous questions of law or fact common to the entire Direct Purchaser Class—  
23 including, but not limited to those identified below—arise from Defendants' anticompetitive and  
24 unlawful conduct:

- 25 a. Whether Defendants combined and/or conspired to fix, raise, maintain, or stabilize  
26 prices of aluminum, tantalum and film capacitors sold to purchasers in the United  
27 States at any time during the Class Period;

- b. Whether Defendants concertedly fixed, raised, maintained or stabilized prices of aluminum, tantalum, and film capacitors sold to purchasers in the United States at any time during the Class Period, and/or committed other conduct in furtherance of the conspiracy alleged herein;
- c. The duration and the extent of Defendants' conspiracy;
- d. Whether Defendant fraudulently concealed their conspiracy from Capacitors purchasers in the United States;
- e. Whether the actions of Defendants in so conspiring violated Section 1 of the Sherman Act;
- f. Whether Defendants' conduct caused the prices of aluminum, tantalum and film capacitors sold at any time during the Class Period to purchasers in the United States to be artificially fixed, raised, maintained or stabilized at noncompetitive prices;
- g. Whether Plaintiffs and the other members of the Direct Purchaser Class were injured by Defendants' conduct and, if so, the appropriate Class-wide measure of damages; and
- h. Whether Plaintiffs and other members of the Direct Purchaser Class are entitled to, among other things, injunctive relief, and, if so, the nature and extent of such relief.

117. These and other questions of law and fact are common to the Direct Purchaser Class and predominate over any questions affecting the Class members individually.

118. Plaintiffs will fairly and adequately represent the interests of the Direct Purchaser Class because they directly purchased Capacitors from one or more Defendants and they have no conflicts with any other members of the Class. Furthermore, Plaintiffs have retained sophisticated and competent counsel who are experienced in prosecuting antitrust class actions, as well as other complex litigation.

119. Defendants have acted on grounds generally applicable to the Direct Purchaser Class, thereby making final injunctive relief appropriate with respect to the Class as a whole.

120. This class action is superior to alternatives, if any, for the fair and efficient adjudication of this controversy. Prosecution of the claims pleaded herein as a class action will eliminate the

possibility of repetitive litigation. There will be no material difficulty in the management of this action as a class action.

121. The prosecution of separate actions by individual Class members would create the risk of inconsistent or varying adjudications, establishing incompatible standards of conduct for Defendants.

### **TRADE AND COMMERCE**

122. During the Class Period, each Defendant, directly or through one or more of its respective parents, subsidiaries, business units, agents or affiliates, sold and/or delivered to United States purchasers aluminum and/or tantalum and/or film capacitors in a continuous and uninterrupted flow of interstate commerce, including through and into this District.

123. By way of example and not limitation, the following Defendants each assisted its respective corporate parent Defendants with the sale and/or delivery to United States purchasers of the parents' respective aluminum, tantalum and film capacitors to United States purchasers: PCNA; SANYO NA; NEC TOKIN America; UCC; Hitachi Chemical America; Fujitsu Components America; Fujitsu Semicon America; Nichicon America; Rubycon America; ELNA America; HolyStone International; ROHM Semicon USA; EPCOS Inc.; TDK USA; Okaya America; Taitso America; Shinyei America; and Soshin America.

124. During the Class Period, Defendants collectively controlled the respective markets for the sale of aluminum, tantalum and film capacitors, both globally and also in the United States.

125. Defendants engaged in conduct both inside and outside of the United States that caused direct, substantial and reasonably foreseeable and intended anticompetitive effects upon interstate commerce within the United States.

126. The Capacitors manufactured abroad by the Defendants and sold in the United States constitute domestic or import commerce.

127. To the extent any Capacitors are purchased in the United States and these purchases do not constitute domestic or import commerce, the Defendants' unlawful activities with respect thereto, as more fully alleged herein, had, and continue to have, a direct, substantial and reasonably foreseeable effect on United States commerce that gives rise to the claims asserted herein.

128. The Defendants also sold Capacitors overseas directly to members of the Direct Purchaser Class (including through the Class members' controlled subsidiaries, agents or affiliates) for incorporation into products manufactured overseas that were imported into the United States. These sales by Defendants involved import commerce and had a substantial, direct and reasonable foreseeable effect on United States import commerce that gives rise to the claims asserted herein.

129. By reason of the unlawful activities hereinafter alleged, the Defendants substantially and foreseeably affected commerce throughout the United States, causing injury to Plaintiffs and members of the Class. The Defendants, directly and through their respective parents, subsidiaries, business units, agents, affiliates, successors and predecessors knowingly and intentionally engaged in activities affecting all states, to fix, raise, maintain and/or stabilize prices in the United States for Capacitors, which conspiracy unreasonably restrained trade and artificially inflated the prices for Capacitors and manufactured products incorporating Capacitors imported into the United States.

130. The anticompetitive conduct described herein, and its effect on United States commerce, proximately caused antitrust injury to Plaintiffs and members of the Direct Purchaser Class in the United States and gives rise to their claims. The anticompetitive conduct caused Plaintiffs and members of the Direct Purchaser Class to pay supra-competitive prices for Capacitors. The anticompetitive conduct also caused persons in the United States to pay supra-competitive prices for manufactured products imported by members of the Direct Purchaser Class that incorporate Capacitors purchased from the Defendants. In each of these categories, the resulting price increases amounted to hundreds of millions of dollars or more and should have been or were, in fact, anticipated by Defendants, as they are the natural and predictable consequence of Defendants' anticompetitive conduct.

## **FACTUAL ALLEGATIONS**

### **I. WHAT CAPACITORS DO AND HOW THEY WORK**

131. Capacitors are electronic components that serve as one of the fundamental building blocks of all types of electrical circuits. Virtually every electrical circuit contains one or more capacitors. In the taxonomy of electrical components, capacitors are categorized as "passive" components. That is, capacitors do not require electrical power to operate. Instead, the physical

properties of the materials that compose a passive component cause it to perform the task for which it is employed.

132. Generally, capacitors serve as reservoirs of electrical charge that smooth out inconsistencies in both source current available (i.e., current from batteries or electrical outlets) and the load current demanded by a device requiring the current. Most primary electrical sources have slowly varying current delivery, but many electrical devices will require changing load current demands in fractions of a second. Capacitors insure that the load current demands for the circuits and devices in which they are installed are met. The amount of charge the capacitor can hold at a given voltage defines its capacitance.

133. In its basic form, a capacitor consists of two or more parallel conductive metal plates that are not connected to or touching each other, but are electrically separated by some form of insulating, non-conductive material. The insulating layer between a capacitor's plates is commonly called the dielectric. When a voltage is applied to the two plates, an electric field is created between them; positive charge will collect on one plate and negative charge on the other. The dielectric, a non-conductive material, does not permit the electric current to flow between the metal plates.

134. The most commonly used dielectrics used in capacitors are aluminum or tantalum plates covered by a dielectric metallic oxide layer, insulating plastic film and ceramic materials.

## **II. TYPES OF CAPACITORS AND THEIR USES**

135. Capacitors are usually distinguished from each other by whether they are electrolytic or electrostatic. Electrolytic capacitors are polarized, meaning that they have positive and negative leads that must be positioned the correct way in an electric circuit (i.e., the positive lead, or cathode, must go to the positive side of the power source, and the negative lead, or anode, must go to the negative side). In contrast, electrostatic capacitors are not polarized (i.e., they do not have a positive and negative leads) and therefore can be installed in either direction with respect to the flow of current in an electrical circuit.

136. Electrolytic capacitors have historically offered higher capacitance than electrostatic capacitors. Because of their ability to hold larger charges, electrolytic capacitors have typically been used for power filtering, coupling or buffering in sophisticated electronic devices, such as televisions,

computers, mobile phones, smart phones, tablets, and technology used by the medical, military industrial and aerospace industries.

137. Electrolytic and electrostatic capacitors are further distinguished within these two categories by the material from which their dielectrics are made. The majority of electrolytic capacitors sold contain aluminum or tantalum dielectrics, whereas ceramic capacitors and film capacitors are electrostatic.

#### **A. Electrolytic Capacitors**

##### **1. Aluminum Capacitors**

138. Aluminum capacitors use aluminum foil for their anodes and cathodes. Aluminum capacitors can be distinguished by the type of electrolyte they employ.

139. Conventional, or “wet” aluminum capacitors are composed of two aluminum foils and a paper spacer soaked in a liquid electrolyte. The anode aluminum foil is covered with an aluminum oxide layer that serves as the dielectric, while the uncoated foil acts as a cathode. The anode, electrolyte-soaked paper and cathode are stacked together, and the stack is then wound up, placed into a cylindrical enclosure usually made of aluminum and connected to an electric circuit through being surface mounted on PCBs or attached by radial or axial leads.

140. Polymer aluminum capacitors differ from conventional aluminum capacitors in that they contain a solid conductive polymer in place of an electrolyte-soaked paper spacer. Polymer aluminum capacitors are either stacked and wound in the same fashion as conventional aluminum capacitors, or they are layered and packaged in a molded resin to be used as compact surface mount devices.

141. In both conventional and polymer aluminum capacitors, the thinness of the aluminum oxide layer dielectric on the anode foil allows for high capacitance, though their capacitance can only increase by increasing the surface area covered by the dielectric. This, however, requires additional stacking and/or winding of the foil layers, thus increasing the capacitors’ physical size. As a result, aluminum capacitors may have lower volumetric efficiency in comparison to many tantalum, ceramic or film capacitors.

142. The polymer electrolytes used in polymer aluminum capacitors typically have higher conductivity than the liquid electrolyte used in conventional aluminum capacitors, resulting in lower

equivalent series resistance (*i.e.*, an obstruction in the flow of electric charge in and out of a capacitor) (“ESR”). Additionally, because the polymer electrolyte used in a polymer aluminum capacitor is a solid and therefore cannot dry out, polymer aluminum capacitors typically have longer service lives than conventional aluminum capacitors. Polymer aluminum capacitors also have the ability to self-heal, *i.e.*, the conductive polymer electrolyte can prevent the component’s failure after a short circuit caused by a dielectric defect by essentially melting to form a barrier against any current leaking from the electrode.

143. Both types of aluminum capacitors frequently are used in a variety of electronic devices, such as consumer audio and video devices, televisions, video game consoles, desktop and laptop computers, automotive electronics and power inverters. Conventional aluminum capacitors have been used for decades and are therefore prevalent in the electric circuits found in older electronic devices. In contrast, polymer aluminum capacitors first became available in the mid-1980s and, due to the attributes identified above, are frequently found in newer electronic devices.

144. Conventional aluminum capacitors and polymer aluminum capacitors are together referred to herein as “aluminum capacitors.”

## **2. Tantalum Capacitors**

145. Tantalum capacitors exploit the tendency of tantalum metal to form a non-conductive protective tantalum oxide surface layer. They consist of tantalum powder sintered (*i.e.*, formed by high pressure) together—often called a “pellet”—as the anode of the capacitor, with tantalum oxide forming on the pellet’s surface serving as the dielectric. The tantalum pellet is very porous, and therefore has more surface area for the dielectric oxide layer to cover, thereby increasing the capacitors’ capacitance.

146. Like aluminum capacitors, tantalum capacitors can be distinguished by the materials they employ. Conventional “wet” and “dry” slug tantalum capacitors use a sintered tantalum metal pellet as an anode on which the dielectric oxide layer is formed. The cathode is formed from a manganese dioxide layer separated from the dielectric by either liquid or solid electrolyte. A polymer tantalum capacitor instead forms the cathode from a conductive polymer.

147. Conventional tantalum capacitors are typically attached to an electric circuit through radial or axial leads. However, certain types of “dry slug” tantalum capacitors and polymer tantalum

capacitors are available in both leaded and surface mount models. Surface mount capacitors are usually composed of layered tantalum and the oxide dielectric packaged in a compact molded resin case.

148. The dielectric layer in both conventional and polymer tantalum capacitors can be very thin—thinner than the similar layer in, for instance, comparable aluminum capacitors. Accordingly, both types of tantalum capacitors can have high capacitance in a small volume (about four-fold the capacitance for a given geometry), and thus can have high volumetric efficiency.

149. Further, both types of tantalum capacitors have high resistance to leaking charge and have lower ESR than aluminum capacitors of the same capacitance rating. Accordingly, both types of tantalum capacitors frequently are used in complex electronic devices in which small size and high capacitance are both required, *e.g.*, mobile phones, smart phones, personal computers, tablet devices and automotive electronics.

150. Between the two types of tantalum capacitors, polymer tantalum capacitors have a lower ESR. This allows polymer tantalum capacitors to withstand higher ripple currents during normal operation. A ripple current is the AC component that causes the internal resistance of a capacitor to dissipate power and thus heat up the capacitor. The ESR of polymer tantalum capacitors is nearly constant within its operating temperature range, while the ESR of a conventional tantalum capacitor noticeably changes with temperature. High temperatures in conventional tantalum capacitors can tend to dry up or dissipate the liquid electrolytic contained within them.

151. Conventional tantalum capacitors can be susceptible to short-circuiting or catastrophic ignition failure and destruction by fire if subject to excess voltage, reverse voltage, or current surges. These occurrences can cause localized breakdown of the magnesium dioxide cathode, starting a reaction in which both metal oxides break down into both fuel and oxygen. Catastrophic failure is less likely with polymer tantalum capacitors as the polymer cathode is much less oxygen rich.

152. Conventional tantalum capacitors and polymer tantalum capacitors are together referred to herein as “tantalum capacitors.”

## **B. Electrostatic Capacitors**

### **1. Film Capacitors**

153. Film capacitors are non-polarized capacitors typically comprised of two pieces of plastic film. This film is made extremely thin using a sophisticated film drawing process. Once the film is manufactured, it may be metallized or left untreated, depending on the needed properties of the capacitor. After the film is drawn to the desired thickness, the film is cut into ribbons. The width of the ribbons depends on the capacity of the capacitor being produced. Two ribbons of film are wound together into a roll, which is often pressed into an oval shape so that it can fit into a rectangular case. This is important because rectangular components save precious space on the printed circuit board. Electrodes are added by connecting each of the two electrodes to one of the films. A voltage is applied to burn out any imperfections using the self-healing property of film capacitors. The case is then sealed using silicon oil to protect the film roll against moisture, and dipped in plastic to hermetically seal the interior.

154. There are many types of film capacitors, including polyester film, metallized film, polypropylene film, polytetrafluoroethylene (“PTFE”) film and polystyrene film. The primary difference between these types of film capacitors is the material used as the dielectric.

155. Film capacitors offer the advantages of stability of electrical values over sustained usage, reliability (low self-inductance and ESR), and low cost. The reliability and stability of film capacitors make them useful for many industrial applications and general-purpose applications in electronics. However, their larger size in comparison to aluminum, tantalum and ceramic capacitors with similar performance characteristics limit the ability of original equipment manufacturers (“OEMs”), contract electronic manufacturing service providers (“CMs”) and other product manufacturers from using film capacitors in surface-mount technology. Because miniaturized consumer electronics—which mostly require surface-mounted capacitors with small form factors and superior volumetric efficiency—have grown in demand, the demand for film capacitors has become stagnant.

### **2. Ceramic Capacitors**

156. A ceramic capacitor is a non-polarized capacitor made out of two or more alternating layers of ceramic and metal in which the ceramic material acts as the dielectric and the metal acts as the

capacitor's electrodes. The ceramic dielectric is a mixture of finely ground granules of paraelectric or ferroelectric materials, modified by mixed oxides that are necessary to achieve the capacitor's desired characteristics.

157. The great plasticity of ceramic raw material enables manufacturers to produce an enormous diversity of styles, shapes and dimensions of capacitors. Because the thickness of the ceramic dielectric layer can be easily controlled and produced by the desired application voltage, ceramic capacitors are available with rated voltages up to the 30 kV range. Currently, the smallest discrete ceramic capacitor is about the physical size of the head of a pin, though advances in materials science and refinement of manufacturing processes may eventually permit fabrication of even smaller components.

158. The most prevalent form of ceramic capacitor is known as a multilayer ceramic capacitor ("MLCC"). Industry analysts report that for fiscal year 2014, MLCCs are estimated to account for approximately 95% of the global ceramic market in terms of volume and approximately 94% in terms of value. MLCCs are constructed with alternating layers that result in single capacitors connected in parallel. This method, called "stacking" increases the component's capacitance because its surface area is increased by stacking up multiple layers of ceramic dielectric materials and metal electrode materials.

159. Technological and material advancements have permitted manufacturers to increase the number of layers in MLCCs while at the same time miniaturizing the components. The result of these improvements is that MLCCs tend to have greater volumetric efficiency than aluminum, tantalum, and film capacitors, and can also compete with tantalum capacitors in small form factor applications. Generally speaking, aluminum, tantalum and film capacitors must increase in physical size to increase capacitance. The capacitance of aluminum and film capacitors can be increased only through tightly winding or layering the foils and films used in the respective products, thereby increasing the surface area as well as the total size of a component. In similar fashion, the capacitance of tantalum capacitors is increased only by expanding the size of the tantalum pellet found in the capacitor, which in turn increases the total size of the capacitor.

160. Currently, the price of MLCCs is, on average, only a fraction of the price of aluminum, tantalum and film capacitors—a current average per unit price of approximately \$0.006. The average

price of MLCCs has declined year-over-year throughout the Class Period. In contrast, even some of the lowest price aluminum, tantalum and film capacitors can be 100 times more expensive than MLCCs on a per unit basis.

161. Electric circuits are designed to accommodate specific types of active and passive components with specific technical and operational characteristics. Therefore, ceramic capacitors cannot immediately be integrated by OEMs, CMs and other product manufacturers into PCBs or other types of electrical circuits that require aluminum, tantalum or film capacitors without a lengthy, resource-intensive redesign and re-engineering effort.

162. OEMs and CMs would have to undertake this product redesign and reengineering all while still working to meet ongoing demand for their finished products. Ultimately, the cost (*e.g.*, impact to short term profits or supply chain structure, etc.) versus the benefit of redesigning and reengineering products to use ceramic capacitors may serve to dissuade some OEMs, CMs and other product manufacturers from undertaking the effort to redesign and reengineer their products to incorporate different types of capacitors.

### **III. THE MARKET CONDITIONS IN WHICH DEFENDANTS' CONSPIRACY ORIGINATED AND OPERATED**

163. Generally, three types of Direct Purchasers by Capacitors, including: (1) OEMs who incorporate Capacitors into their finished products, (2) CMs who manufacture and assemble PCBs and other electric circuit products containing Capacitors that ultimately are incorporated into finished products manufactured by OEMs and other product manufacturers, and (3) electronic component distributors who buy Capacitors directly from manufacturers and resell them.

164. According to a leading capacitors industry analyst, the North and South American markets for capacitors collectively account for approximately \$2.2 billion for fiscal year 2014, or roughly 12 percent of the global market. Aluminum capacitors account for approximately 17% of current capacitors consumption in North and South America, followed by tantalum capacitors with 14%, and film capacitors with 15%.

165. According to a leading capacitors industry analyst, global consumption of aluminum, tantalum and film capacitors has been declining for over a decade. Consumption of tantalum capacitors

1 dropped from approximately 2.4% of global volume for fiscal year 2003 to an estimated 1.1% for 2014.  
2 Consumption of aluminum capacitors dropped from approximately 10.2 % for fiscal year 2003 to an  
3 estimated 6.8% for fiscal year 2014. Consumption of film capacitors dropped from approximately 2.5%  
4 for fiscal year 2003 to an estimated 1.1% for fiscal year 2014.

5 166. Though capacitors are used in all types of electrical circuits, the demand for all types of  
6 capacitors for at least the last decade has been largely tied to the demand for consumer electronics,  
7 which currently accounts for approximately 90% of global unit demand.

8 167. The computer end-use market segment historically has accounted for a significant  
9 portion of global capacitor consumption, but that segment has experienced decreasing sales of high-  
10 passive component content laptops and desktops since the early 2000s. Industry analysts have indicated  
11 that declining demand for these products has negatively impacted the demand for aluminum and  
12 tantalum capacitors. Aluminum and tantalum capacitors manufacturers have historically derived close  
13 to 50% of their revenues from the computer market.

14 168. In addition, the consumer audio-video segment, which has also historically accounted for  
15 a significant portion of global capacitor consumption, has also faced significant decreasing sales over the  
16 last decade (*i.e.*, since approximately the beginning of the Class Period) because portable music devices,  
17 tablets and smart phones have replaced them in meeting consumers' audio-visual needs. The fall-off of  
18 the audio-visual market had a significant impact on the demand for aluminum and film capacitors.

19 169. Also during the Class Period, OEMs and CMs—over a number of product  
20 manufacturing and component procurement cycles—have (over great time and cost) redesigned the  
21 electrical circuits in the products they produce to incorporate ceramic capacitors instead of aluminum,  
22 tantalum or film capacitors. This product shift has further contributed to the decline in demand for  
23 aluminum, tantalum and film capacitors during the Class Period. As discussed herein, ceramic  
24 capacitors—specifically MLCCs—have exponentially increased in capacitance and volumetric  
25 efficiency since the 1990s, while at the same time decreased in price per unit. Though neither  
26 interchangeable nor substitutable with aluminum, tantalum or film capacitors, the improvements in  
27 cost-effective MLCC technology caused many OEMs and CMs to design the electric circuits employed  
28 in their products over time to incorporate ceramic capacitors.

170. For a number of reasons (*e.g.*, technological advancement of new generations of Capacitors; cost versus benefit of circuit redesign by OEMs and CMs; product familiarity; product loyalty; product preference; established and reliable procurement channels, etc.), the sales, both globally and in the United States, of aluminum, tantalum and film capacitors of all types remain sizeable. Leading capacitors industry analysts report that, for fiscal year 2013, global revenues for aluminum and tantalum capacitors were approximately \$5.74 billion and approximately \$1.9 billion for film capacitors.

#### IV. DEFENDANTS' COLLUSIVE ANTICOMPETITIVE PRACTICES

171. Faced with increased requests by purchasers for price reductions and an overall decline in demand for their aluminum, tantalum and film capacitors, before and during the Class Period, Defendants feared that price competition would reduce, if not eliminate, profitability for Defendants' Capacitor manufacturing operations.

172. Before and during the Class Period, Defendants—both individually and collectively—held significant shares in already-mature markets for aluminum, tantalum and film capacitors, thereby producing a significant amount of the Capacitors available to United States purchasers and purchasers worldwide.

173. Before and during the Class Period, Defendants were aware that fringe non-party capacitor manufacturers with smaller market shares in the aluminum, tantalum and film capacitor markets faced capacity, technology, and resources constraints that would render them unable to successfully compete against Defendants by meeting and/or capturing market demand for Capacitors should Defendants artificially control prices in these three product markets.

174. Aluminum, tantalum and film capacitors of like capacitance, dielectric and form factor are in most instances mutually interchangeable for each other. For example, one manufacturer's aluminum capacitors of a given capacitance and form factor often can be substituted for another manufacturer's aluminum capacitors with the same capacitance and form factors; the same goes for tantalum and film capacitors produced by different manufacturers with the same capacitance and form factors. Aluminum capacitors, however, are not mutually interchangeable with tantalum capacitors or with film capacitors, nor are film capacitors and tantalum capacitors mutually interchangeable with each other.

1           175. Before and during the Class Period, Defendants were aware of the interchangeability of  
2 their respective aluminum, tantalum and film capacitors having like capacitance, dielectric and form  
3 factors, and had concerns that purchasers' understanding of this interchangeability could drive  
4 Defendants to compete against themselves on price for sales.

5           176. Capacitors are components fundamentally necessary for the function of electric circuits.  
6 Other types of passive electrical components (*e.g.*, inductors, resistors) cannot serve as a substitute for  
7 or a functional equivalent to an aluminum, tantalum or film capacitor.

8           177. Before and during the Class Period, Defendants were aware of their customers' inability  
9 to substitute other passive electronic components to take the place of the Capacitors they required.  
10 This fact emboldened Defendants to set prices for their aluminum, tantalum and film capacitors  
11 collusively during the Class Period because, without any feasible substitutes for capacitors on the  
12 market, Defendants would not lose anything close to sufficient sales to make the cartel pricing  
13 unprofitable.

14           178. All types of Capacitors purchasers—OEMs, CMs and third-party distributors—are  
15 almost always committed to inflexible production or delivery deadlines to their respective customers,  
16 and therefore are likely to accept collusively set price increases on the Capacitors they require to avoid  
17 the usually greater cost of production delays or customer dissatisfaction.

18           179. Before and during the Class Period, Defendants were aware that, because Capacitors are  
19 necessary, non-substitutable, and generally inexpensive, collusively set price increases would face little  
20 to no opposition from purchasers.

21           180. In their collective and individual consideration of these market conditions and product  
22 characteristics, Defendants agreed to operate as a cartel to suppress price competition among them for  
23 their respective competing aluminum, tantalum and film capacitors. This agreement was reached  
24 through both oral and written communications among directors, executives, officers, business unit  
25 managers, sales representatives and employees of the Defendant companies. These communications  
26 occurred in person through both regular and impromptu meetings, electronic or paper correspondence,  
27 text messaging and/or telephonic or video communications in the period before and during the Class  
28 Period.

1           181. Discovery regarding the nature and scope of the cartel and conspiratorial activity alleged  
2 is just beginning. The material facts are in the possession of the cartel members. Cartel members did  
3 not know the identities of all the cartel's participants or even the identities of all of its participants.  
4 While there was substantial overlap between and among Defendants who participated in discussions,  
5 communications and agreements concerning electrolytic (aluminum and tantalum) capacitors, on the  
6 one hand, and film capacitors, on the other, much still needs to be discovered about their contacts,  
7 communications and agreements. Further, merits discovery has been stayed by Court Order, and expert  
8 economic analysis of the impact of the cartel is in its earliest stage. The inquiry into and analysis of  
9 Defendants' collusive practices must be substantially more advanced before reliable conclusions about  
10 the nature, scope and effects of the capacitors cartel can be reached.

11           **A. Defendants' Cartel**

12           182. Defendants intended to restrain trade in aluminum, tantalum and film capacitors  
13 primarily in two ways.

14           183. First, Defendants agreed to concertedly fix, raise, maintain and/or stabilize the prices for  
15 aluminum, tantalum and film capacitors.

16           184. As part of the Defendants' cartel, Defendants shared and exchanged with each other—  
17 either through correspondence or during in-person meetings among their respective officers, executives  
18 (as detailed below), and other employees with authority to enter into contracts and bind their  
19 employers—confidential and competitively sensitive information pertaining to their product pricing. By  
20 way of illustration and not limitation, Defendants shared with each other, among other things,  
21 information pertaining to the fixed and variable input costs that impacted their product pricing (*e.g.*, raw  
22 materials costs, labor costs), current and future price intentions, production statistics, and their  
23 reactions and suggestions regarding market and customer demand.

24           185. Defendants colluded, maintained and enforced the concerted pricing on their aluminum,  
25 tantalum and film capacitors and other cartel activity through, *inter alia*, regular interactions and  
26 agreements reached among members of the cartel—both in regular, organized meetings and through ad  
27 hoc meetings and correspondence—and through communications and agreements on current and  
28 future pricing intentions and related topics.

1           186. Defendants monitored the prices of their fellow cartel members during the Class Period  
2 and punished those who, on rare occasions, sought to stray from the agreed pricing. Once the cartel  
3 members learned of any deviation from coordinated pricing, pricing for the product at issue would  
4 either adjust back to the price collusively determined by the cartel's members, or the Defendant who  
5 sought to benefit individually from pricing information obtained through its membership in the cartel  
6 would face retribution from the cartel's members, such as exclusion from the cartel and its collusive  
7 discussions for a period of time.

8           187. For example, Nichicon and Nippon Chemi-Con were punished by the cartel and  
9 excluded at times from cartel discussions regarding price fixing in the aluminum and tantalum capacitors  
10 markets. Additionally, at times during the Class Period, Nichicon and Nippon Chemi-Con, as well as  
11 certain other Defendants, were subject to harsh criticism by other cartel members (*i.e.*, other  
12 Defendants cartel members) during the cartel's regular meetings and they were reprimanded for  
13 pursuing their individual interests over those of the cartel by cheating on the cartel's agreements or for  
14 failing to keep their sale operations act in line with the cartel's price-fixing aims.

15           188. Aside from setting non-competitive prices for their aluminum, tantalum and film  
16 capacitors in concert, Defendants also agreed to quote similar or identical production lead times to  
17 purchasers on a concerted basis. These agreements permitted Defendants to meter out the supply of  
18 their products, thereby artificially restricting supply and creating the perception of a supply shortage.  
19 This situation prevented natural competitive forces to press prices lower.

20           189. Defendants further agreed to restrain their output, in part, to curb the practice of certain  
21 purchasers such as third-party distributors who bought large quantities of products from Defendants  
22 when prices were relatively low, but would abstain when prices were higher. Defendants intended their  
23 practice of quoting similar production lead times for their mutually interchangeable products to smooth  
24 out the inconsistent volume of purchases by these purchasers and create the perception of balanced  
25 supply and demand. At the same time, Defendants intended this practice to complement their efforts to  
26 artificially fix, raise, stabilized and maintain non-competitive prices for Capacitors.

27           190. To achieve the cartel's goal of quoting uniform production lead times to purchasers,  
28 Defendants regularly interacted, communicated and agreed with other Defendants in the cartel on

1 production lead times. Defendants concertedly coordinated to quote lengthened production lead times  
2 unjustifiably in order to foster the cartel's scheme to maintain noncompetitive prices for the  
3 Defendants' aluminum, tantalum and film capacitors.

4 191. Defendants regularly provided to purchasers and the public pretextual excuses for the  
5 increase of production lead times, such as problems obtaining raw materials (*e.g.*, tantalum ore,  
6 aluminum foil, plastic film, dielectric resins) necessary for production, shipping delays, and production  
7 delays caused by natural disasters (*e.g.*, the 2011 Tohoku earthquake and tsunami, typhoons in Asia,  
8 flooding in Thailand and other countries where Defendants' capacitor manufacturing facilities are  
9 located). Defendants' pretextual justifications misled purchasers about the real reasons for the long  
10 production lead times.

#### 11 **B. Meetings Among the Defendant Cartel Members During the Class Period**

12 192. Defendants together reached an agreement to form a cartel for the purpose of  
13 concertedly fixing prices of and reducing output on their respective aluminum, tantalum and film  
14 capacitors no later than January 1, 2003.

15 193. At least by the beginning of 2003, Defendants had already agreed and organized among  
16 themselves regular meetings for the purpose of fixing, raising, and/or maintaining prices, including by  
17 sharing competitively sensitive information regarding, among other things, intentions on future pricing  
18 for Capacitors, production costs, current (*i.e.*, not historical) demand, and for organizing concerted  
19 responses to customer and market demands for price reductions for Capacitors. These meetings  
20 frequently resulted in Defendants agreeing to artificially fix, raise, stabilize, and maintain Capacitors  
21 prices.

##### 22 **1. The Cartel's Regular Meetings**

23 194. Starting no later than January 1, 2003, the Defendant cartel members formally organized  
24 meetings among themselves to serve as a forum for the discussion and exchange of competitively  
25 sensitive information. As one attendee of these meetings noted around this time, the purpose of the  
26 cartel meetings was to "exchange information by market and by capacitor category so that each company  
27 will be able to enjoy profits and that healthy market prices will be maintained."  
28

1           195. These meetings were an outgrowth of regular meetings conducted among certain  
2 Defendants dating back to the 1990s in which the participants exchanged historical summary pricing  
3 and sales data.

4           196. The cartel's meetings were known by Defendants at various times within the Class  
5 Period as the "ATC," "MK" or "JFC" meetings. The meetings were generally organized by the types  
6 of Capacitors to be discussed by the Defendant attendees. ATC and MK meetings were usually held  
7 among the Defendant manufacturers of aluminum and tantalum capacitors, and the JFC meetings were  
8 usually held among the Defendant manufacturers of film capacitors. A number of Defendants attended  
9 all the cartel meetings as they were significant manufacturers of all Capacitors subject to the cartel.

10          197. Each of these meetings constituted overt acts in furtherance of Defendants' conspiracy.

11          198. Meeting rosters during the period from 2003 to 2008 indicate that officers, managers  
12 and/or employees of the following Defendant companies participated in or were informed of the cartel's  
13 regular meetings: ELNA; Fujitsu (FMD); Hitachi AIC; Holy Stone; KEMET; Matsuo; NEC TOKIN;  
14 Nichicon; Nippon Chemi-Con; Nissei; Nitsuko; Okaya; Panasonic; ROHM; Rubycon; SANYO;  
15 Shinyei; Soshin; Taitsu; and TOSHIN KOGYO.

16          199. Nippon Chemi-Con, Rubycon, Hitachi AIC and Panasonic/SANYO each played a key  
17 role in organizing the cartel's regular meetings and coordinating the operation of the cartel during the  
18 Class Period, because each of these Defendant companies manufactured both electrolytic capacitors  
19 (*i.e.*, aluminum and/or tantalum) and film capacitors and are dominant manufacturers of these  
20 capacitors. This overlap of membership between the electrolytic and film capacitors groups allowed the  
21 Defendants involved in the cartel to integrate and coordinate their collusive efforts.

22          200. The cartel membership invited to these meetings would, on limited occasions, change  
23 when cartel members resolved to exclude from the meetings, at least for a time, certain Defendants that  
24 were suspected of cheating on the cartel through using the competitively sensitive information they  
25 received through the cartel's operation for their own individual benefit.

26          201. The Defendants generally held monthly one-day meetings that were usually attended by  
27 manager-level employees. These meetings focused on the exchange of competitively sensitive data,  
28 such as production volumes, current and future excess capacity, current and future pricing, and various

1 statistical data. Representatives for each Defendant in attendance, one by one, would present to the  
2 other cartel members regarding his company's competitively sensitive information. After the one-day  
3 meetings, the attendees frequently socialized with each other, during which time, on information and  
4 belief, they conducted business in furtherance of the conspiracy.

5 202. The Defendants also held two-day meetings generally attended by Defendants' more  
6 senior officials. These meetings took place twice a year, with one usually in the spring (typically May or  
7 June), and another usually in November. The first day of the two-day meetings consisted of business  
8 discussions in which officials from each of the Defendants in attendance would make formal  
9 presentations to the group as a whole. In this forum, representatives for each Defendant in attendance,  
10 one by one, addressed the other cartel meeting members to discuss competitively sensitive information  
11 regarding the environment their respective Capacitors businesses faced, such as current and historic  
12 sales performance in both Japanese and overseas markets, current customer demands and customer  
13 industry trends, future intentions concerning pricing and production with regard to significant types of  
14 Capacitors at different times. Defendants would frequently recommend cartel pricing to the other cartel  
15 members. Defendants also used these two-day meetings to discuss and agree on the uniform denial of  
16 certain price reduction requests, as well as the uniform adjustment of prices to account for raw materials  
17 costs, among other things. The second day of the two-day meetings provided the participants the  
18 opportunity to socialize informally and discuss business, during which time, on information and belief,  
19 Defendants conducted business in furtherance of the conspiracy.

20 203. For specific Defendant groups such as the film capacitor manufacturers, meetings were  
21 held less frequently (*i.e.*, every one to three months), and in them the Defendant attendees addressed  
22 more targeted issues, such as the cartel's facilitation of uniform price increases on film capacitors  
23 because materials costs had increased, thereby threatening Defendants' profitability if they had to  
24 compete against each other.

25 204. Based on the recommendations and agreements reached at these different cartel  
26 meetings, the Defendant attendees intended to and did agree to price Capacitors collusively, stand  
27 united against price reduction demands, and set production and delivery dates to collusively control  
28 supply in the aluminum and tantalum capacitors markets. The discussions among Defendants regarding

1 their respective Capacitors informed and facilitated cartel members' price coordination with each other  
2 across different types of Capacitors.

3 205. The cartel's meetings at times focused discussions on specific topics of concern, and  
4 cartel meeting sub-groups were formed to discuss, address and resolve these issues.

5 206. For example, an "Overseas Trade Sectional Meeting" of the "ATC Group" was formed  
6 among certain Defendants at least as early as August 2003 and held meetings in which sales of  
7 aluminum and tantalum capacitors in non-Japanese markets (*i.e.*, the United States, Chinese and  
8 Taiwanese markets) were discussed and prices were mutually agreed upon among the participants. At a  
9 minimum, representatives from NEC TOKIN, ELNA, Nippon Chemi-Con, Nichicon, Rubycon, FMD,  
10 Matsuo, SANYO and Hitachi AIC, Inc. participated in the "Overseas Trade Sectional Meeting"  
11 discussions.

12 207. The discussions, exchange of information, and agreements reached at each of these  
13 meetings constituted overt acts in furtherance of Defendants' conspiracy.

## 14 2. Specific Cartel Meetings

15 208. A full inventory and accounting of the cartel meetings attended by Defendants and what  
16 was discussed and agreed to among Defendants at these meetings is in the exclusive possession of the  
17 Defendants in attendance. Plaintiffs are informed and believe that collusive activity and actions in  
18 support of the cartel occurred at multiple meetings attended by many of the Defendants during the  
19 Class Period, including as follows:

20 a. Representatives from Panasonic and Nissei, as well as others, attended cartel  
21 meetings held during the 4<sup>th</sup> Quarter of 2007. At these meetings, the Defendant attendees discussed,  
22 among other things, their plans to increase film capacitor prices, despite customer requests for price  
23 reductions. The Defendant attendees also discussed specific pricing intentions regarding specific  
24 customers.

25 b. Representatives from TOSHIN KOGYO, Hitachi AIC, Soshin, Nitsuko, Nissei,  
26 Okaya, Taitsu, and Shinyei attended cartel meetings held during the 2<sup>nd</sup> Quarter of 2008. In these  
27 meetings, the Defendant attendees discussed, among other things, customer pricing, including  
28

1 implementing price hikes and non-Japan market conditions. Specifically, certain of the Defendant  
2 attendees agreed to stabilize prices and resist customer efforts to request price reductions.

3 c. Representatives from NEC TOKIN, Nippon Chemi-Con, Matsuo, Rubycon, ELNA,  
4 Hitachi AIC, Nissei, Okaya, Taitsu, Nitsuko, Shinyei, TOSHIN KOGYO, KEMET and Sanyo attended  
5 cartel meetings held during the 3<sup>rd</sup> Quarter of 2008. At these meetings, the Defendant attendees  
6 addressed their current sales data, current pricing information, and dealing with specific customers.  
7 Specifically, the Defendant attendees, among other things, reached agreements about increasing pricing  
8 for electrolytic capacitors; suggested cooperation among certain cartel members in broad price  
9 negotiations regarding polymer aluminum capacitors; and discussed raw materials (plastic film) price  
10 hikes.

11 d. Representatives from Nissei, Panasonic, Taitsu, Shinyei, Rubycon, Okaya, NEC  
12 TOKIN, Nippon Chemi-Con, Matsuo, FMD, ELNA, Hitachi AIC and SANYO attended cartel  
13 meetings during the 4<sup>th</sup> Quarter of 2008. At these meetings, the Defendant attendees discussed, among  
14 other things, implementing film capacitor price increases; current production status; market conditions  
15 in foreign markets, including North America; and ending price competition on film capacitors.

16 e. Representatives from Panasonic, Okaya, Nissei, Shinyei, Taitsu, Nitsuko and  
17 TOSHIN KOGYO attended cartel meetings during the 1<sup>st</sup> Quarter of 2009. At these meetings, the  
18 Defendant attendees discussed, among other things, customer requests for price reductions and agreed  
19 among themselves to resist price decreases and stabilize their film capacitor prices.

20 f. Representatives from Nichicon, Rubycon, Nippon Chemi-Con, Matsuo, ELNA,  
21 Hitachi AIC, FMD, and SANYO attended cartel meetings during the 2<sup>nd</sup> Quarter of 2009. At these  
22 meetings, the Defendant attendees discussed, among other things, their current sales data, current  
23 pricing information, industry and specific customer demands, and raw materials pricing. Specifically,  
24 the Defendant attendees also discussed their future production intentions with regard to aluminum and  
25 tantalum capacitors; sales trends for aluminum capacitors; cost of raw materials; and the impact of  
26 decreasing prices for ceramic capacitors.

27 g. Representatives from Nichicon, Rubycon, Nippon Chemi-Con, Matsuo, Hitachi  
28 AIC, ELNA and SANYO attended cartel meetings during the 3<sup>rd</sup> Quarter of 2009. At these meetings,

1 the Defendant attendees discussed, among other things, current sales data, current pricing information,  
2 industry and specific customer demands, and future production intentions with regard to aluminum and  
3 tantalum capacitors. Specifically, the Defendant attendees discussed increasing sales through  
4 decreasing production of tantalum capacitors and holding back shipments; avoiding price competition  
5 among the cartel members; meeting demand for aluminum and tantalum capacitors; excess capacity;  
6 and cartel members' punishment for and criticism of another cartel member for making sales that  
7 undercut the cartel's collusive pricing.

8 h. Representatives from Nichicon, Rubycon, Nippon Chemi-Con, Matsuo, Hitachi  
9 AIC, ELNA and SANYO attended cartel meetings during the 4<sup>th</sup> Quarter of 2009. At these meetings,  
10 the Defendant attendees discussed, among other things, their current sales data; current pricing  
11 information; industry and specific customer demands; future Capacitors production intentions; price  
12 increases for polymer aluminum capacitors, tantalum capacitors, and other electrolytic products.

13 i. Representatives from NEC TOKIN, Nichicon, Rubycon, Nippon Chemi-Con,  
14 Hitachi AIC, ELNA and SANYO attended cartel meetings during the 1<sup>st</sup> Quarter of 2010. At these  
15 meetings, the Defendant attendees discussed, among other things, their current sales data; current  
16 pricing information; industry and specific customer demands; and future production intentions with  
17 regard to aluminum and tantalum capacitors.

18 j. Representatives of NEC TOKIN, Nippon Chemi-Con, Rubycon, Matsuo, ELNA,  
19 ROHM and Holy Stone attended cartel meetings held in the 2<sup>nd</sup> Quarter of 2010. At these meetings,  
20 the Defendant attendees discussed, among other things, their current sales data; current pricing  
21 information; industry and specific customer demands and trends; capacity; future Capacitors  
22 production intentions; and costs of raw materials.

23 209. The discussions, exchange of information, and agreements reached at each of these  
24 meetings constituted overt acts in furtherance of Defendants' conspiracy.

25 210. The cartel meetings amongst Defendants identified above are in no way an exhaustive  
26 listing of all the meetings held among Defendants during the Class Period. Cartel meetings have  
27 regularly been held from at least January 1, 2003 to present.  
28

### 3. Informal Meetings Among Defendants

211. Both during and after the organized cartel meetings, as well as through ad hoc bilateral or multilateral meetings, Defendants met, discussed and coordinated on how to avoid competing among themselves with regard to Capacitors as well as how best to put their agreement into effect. By way of example and not limitation, Defendants discussed and agreed among themselves on how to concertedly price their competing Capacitors in order to increase profitability and how to coordinate and convey their concerted manufacturing, delivery and pricing changes to customers and the market.

212. At various times throughout the Class Period, SANYO had meetings and discussions following the Defendants' regular meetings with two of its primary competitors in the aluminum and tantalum capacitors markets, *i.e.*, NEC TOKIN and Nippon Chemi-Con. During much of the Class Period, NEC TOKIN was SANYO's primary competitor for its POSCAP polymer tantalum capacitors, and Nippon Chemi-Con was SANYO's primary competitor for its OS-CON polymer aluminum capacitors. These frequent discussions, usually conducted by email or personal communication among employees of these companies, concerned eliminating price competition or artificially setting concerted prices for their respective competing products with regard to customers. At various times during the Class Period, agreements were reached between SANYO and its competitors to fix prices for their aluminum and tantalum capacitors.

213. During the Class Period, SANYO and EPCOS met at a trade show to discuss their tantalum capacitors, conducted an exchange of competitively sensitive information, agreed to make such exchanges in the future so that they could cooperate on future pricing.

214. During the Class Period, SANYO employees that regularly participated in cartel meetings and communications met with senior executives from EPCOS and they conducted an information exchange regarding confidential pricing and production information regarding their own companies, as well as a discussion of similar information regarding AVX's Capacitor operations and business strategy.

215. During the Class Period, SANYO and AVX executives met and conducted an information exchange about their respective Capacitor businesses and market circumstances. AVX worked to coordinate pricing strategy between SANYO, KEMET and itself.

1           216. During the Class Period, SANYO, NEC TOKIN and AVX executives met and  
2 conducted an information exchange about their respective Capacitor businesses and market  
3 circumstances. AVX worked to coordinate current and future pricing strategy between NEC TOKIN,  
4 KEMET and itself. NEC TOKIN confirmed to other cartel members Capacitor current and previous  
5 price increases made by AVX, KEMET and itself.

6           217. KEMET joined the conspiracy at least by 2008 and perhaps by 2005, if not earlier.  
7 Cartel members obtained confidential information regarding prices of KEMET and discussed them at  
8 both formal and informal cartel meetings throughout the Class Period.

9           218. The discussions, exchange of information, and agreements reached at each of these  
10 informal and ad hoc meetings constituted overt acts in furtherance of Defendants' conspiracy.

11           **C. Anticompetitive Effects of Defendants' Capacitors Cartel**

12           219. Defendants' concerted and collusive actions as alleged herein artificially inflated the  
13 prices of Capacitors. Capacitor prices stabilizing during the Class Period is contrary to what would be  
14 expected in a competitive market given, among other things, the excess capacity (as alleged below) and  
15 decreasing demand for aluminum, tantalum and film capacitors beginning in the early 2000s. Industry  
16 and government data suggest that per unit prices for aluminum, tantalum and film capacitors began to  
17 noticeably stabilize, or even increase, around 2005, despite falling demand and excess manufacturing  
18 capacity among Defendants.

19           220. From 2005 to the present, industry data shows that per unit prices for tantalum  
20 capacitors increased approximately \$0.008, or \$8.82 per thousand.

21           221. In 2005, aluminum capacitors began to stop their price decline from approximately  
22 \$55.06 per thousand in 2003. In 2005, industry data shows that the price per unit for aluminum  
23 electrolytic capacitors was \$46.76 per thousand units, and the per unit prices hovered between  
24 approximately \$40.00 and \$46.00 per thousand until 2013.

25           222. In 2005, film capacitors demonstrated a price increase of nearly \$ 1.63 per thousand units  
26 from 2004, and the per unit price continued to rise on most types of film until at least the beginning of  
27 2009, after which the price of film capacitors declined at times, though this decline was less severe than  
28 it would have been in an unfettered market due to the cartel.

223. Defendants' conspiracy permitted the Defendant manufacturers of aluminum, tantalum and film capacitors to slow, negate and even reverse the market-driven decline in price for their products, and to fix prices at supra-competitive levels.

**V. INDUSTRY CHARACTERISTICS INDICATING AND FACILITATING DEFENDANTS' CONSPIRACY TO RESTRAIN TRADE IN THE SALE OF ALUMINUM, TANTALUM AND FILM CAPACITORS**

224. For at least as long as the Class Period, the aluminum, tantalum and film capacitor industry has been characterized by numerous factors that facilitated Defendants' conspiracy. By way of illustration and not limitation, the industry has exhibited (1) market concentration among a limited number of participants; (2) high barriers to entry; (3) mutual interchangeability of Defendants' products; (4) inelasticity of demand; (5) product commoditization; (6) weak demand in a mature market; (7) excess manufacturing capabilities and capacity; (8) a large number of purchasers with limited purchasing power; and (9) ease of information sharing among Defendants.

**A. Market Concentration**

225. Global sales for aluminum, tantalum and film capacitors remain large. In 2004, the electrolytic (*i.e.*, aluminum and tantalum) capacitors accounted for approximately 12% of global capacitor consumption, and film capacitors were approximately 2% of global consumption. Consumption for electrolytic capacitors in 2014 is estimated to be approximately 8% of global volume, and for film capacitors it is estimated to be approximately 1% of global volume. These products generated an estimated \$8.1 billion in aggregate revenue for fiscal year 2014 alone. Industry data show that electrolytic capacitors together currently account for approximately 31% of North and South American capacitor consumption (most of which are presumably consumed in North America), which is valued at approximately \$668 million. Film capacitors currently account for approximately 15%, or \$323 million of North and South American capacitor consumption.

226. Sales in the aluminum, tantalum and film capacitors manufacturing industry are highly concentrated—a fact that is conducive to the type of collusive activity alleged herein.

227. Though there are a relatively large number of companies that produce aluminum capacitors and sell them both globally and in the United States, most of the sales are made by a small subset of manufacturers named herein as Defendants. In all, industry data show that the 13 largest

1 manufacturers of aluminum capacitors account for approximately 92% of all aluminum capacitor sales.  
2 Specifically, industry analysts report that Defendants Nippon Chemi-Con, Nichicon, Rubycon,  
3 Panasonic, AVX and ELNA together currently account for approximately 65% of all aluminum  
4 capacitors sales. Adding in the smaller sales amounts of Defendants Hitachi AIC, Matsuo and  
5 TOSHIN KOGYO, Defendants collectively account for approximately 70% of all aluminum capacitors  
6 sales.

7 228. Given the relatively small volume of sales (*i.e.*, mostly 3% or less) or less of total global  
8 sales of the non-conspirator aluminum capacitor manufacturers, along with their manufacturing and  
9 distribution constraints in the global aluminum capacitors market relative to the Defendants' capacities  
10 (see "High Barriers to Entry" below), the Defendants' concerted actions have had the ability to, and  
11 did, impact pricing on and output of aluminum capacitors during the Class Period. There was not a  
12 reasonable threat that these fringe manufacturers, who were not members of the cartel, could undercut  
13 the cartel's concerted pricing and meet all or a significant part of market demand for aluminum  
14 capacitors.

15 229. Industry data show that the six largest manufacturers of tantalum capacitors—*i.e.*,  
16 Defendants KEMET, AVX, Vishay, SANYO, Hitachi AIC, and ROHM—together account for  
17 approximately 91% of all tantalum capacitors sales. Adding in the smaller sales amounts of Defendants  
18 Matsuo and TOSHIN KOGYO, Defendants collectively account for approximately 95% of all tantalum  
19 capacitors sales.

20 230. Given the relatively small volume of sales (*i.e.*, mostly 3% or less of total global sales) of  
21 the non-conspirator tantalum capacitor manufacturers, along with their manufacturing and distribution  
22 constraints in the global tantalum capacitors market relative to the Defendants' capacities (see "High  
23 Barriers to Entry" below), the Defendants' concerted actions have had the ability to, and did, impact  
24 pricing and output in the global and United States tantalum capacitor markets during the Class Period.  
25 There was not a reasonable threat that these fringe manufacturers who were not members of the cartel  
26 could undercut the cartel's concerted pricing and meet all or a significant part of market demand for  
27 tantalum capacitors.  
28

231. Industry data show that the five largest manufacturers of film capacitors—Panasonic, KEMET, TDK, Vishay and AVX—together account for approximately 32% of all film capacitors sales. These five manufacturers, along with Defendants Okaya, Nissei, Taitso, Soshin, Shinyei, Nitsuko, Nippon Chemi-Con, Nichicon, Rubycon, and Hitachi AIC collectively account for approximately 70% of all film capacitors sales.

232. Given the relatively small volume of sales (*i.e.*, mostly 3% or less) of the non-conspirator film capacitor manufacturers, along with their manufacturing and distribution constraints in the global film capacitors market relative to Defendants’ capacities (see “High Barriers to Entry” below), the Defendants’ concerted actions are likely to have had the ability to, and did, impact pricing and output in the global and United States film capacitor markets during the Class Period. There was not a reasonable threat that these fringe manufacturers who were not members of the cartel could undercut the cartel’s concerted pricing and meet all or a significant part of market demand for film capacitors.

#### **B. High Barriers to Entry**

233. In industries characterized by substantial barriers to entry, new entrants are unlikely to be able to compete away supracompetitive cartel pricing. Here, high barriers to entry have prevented entry by sellers of Capacitors despite the artificial inflation of prices.

234. Companies seeking to manufacture and sell aluminum, tantalum and film capacitors confront various significant barriers to entry.

235. The capacitors manufacturing industry is a mature one dominated by established corporations, each having multinational operations, global market reach, and diverse product portfolios of all types of passive electrical components. These companies—the Defendants in particular—have significant experience in the global capacitors industry and established reputations with both sellers of raw materials and purchasers of finished capacitors. These companies typically have access to significant financial resources that allow them to commit the capital necessary to bring online new fabrication operations and facilities or to expand/retrofit existing ones to meet and exceed market demand and adjust to technological changes. This readily available access to capital also permits manufacturers like Defendants the ability to establish and secure necessary supply chain commitments

1 for all raw materials they require. Defendants are all established manufacturers in the Capacitors  
2 industry.

3 236. For a prospective capacitor manufacturer, setting up competitive manufacturing  
4 operations and supply chain operations is a significant financial and logistic hurdle to market entry. A  
5 new entrant seeking to build electrolytic capacitor and/or film capacitor fabrication operations and  
6 facilities faces not only the sizeable cost of building fabrication plants, but also the costs of acquiring the  
7 necessary production technology, hiring and retaining skilled and knowledgeable manpower, and  
8 securing the raw materials and supply chain commitments necessary to manufacture competitive  
9 products. These costs would exceed hundreds of millions of dollars. Many of the Defendant  
10 manufacturers have developed internal processing capabilities for raw materials and have established  
11 relationships with raw materials producers that all but insure that their requirements will be met.

12 237. Moreover, some of the raw materials necessary to manufacture certain types of  
13 capacitors are produced in only a limited number of regions around the world or are available from only  
14 a limited number of suppliers.

15 238. For example, tantalum is the principal feedstock used to make tantalum capacitors.  
16 Fabrication of tantalum capacitors accounts for over 60% of the global and U.S. demand for tantalum.  
17 Tantalum is only mined in a few regions in the world, principally South America (Brazil), central Africa  
18 (the Democratic Republic of Congo), and Australia. Because the Congo is rich in ores containing  
19 tantalum, rebel factions in the country have mined and sold tantalum to foreigners in order to fund  
20 their insurgency. To avoid SEC-reporting companies directly or indirectly funding civil wars and strife  
21 abroad when purchasing their tantalum requirements, Congress passed the Dodd-Frank Wall Street  
22 Reform and Consumer Protection Act, Section 1502, which designates tantalum as a “conflict mineral”  
23 and requires that public companies using tantalum or other conflict minerals to file annual public  
24 reports with the SEC regarding the origins of conflict minerals in their supply chains that disclose and  
25 represent the source of these minerals. Sourcing concerns led to supply shortages and price shocks.  
26 Accordingly, a potential new tantalum capacitor manufacturer not only would have difficulty securing  
27 adequate supplies of tantalum in the already competitive global market for the mineral, but would likely  
28 have to commit significant time, effort and money to auditing its newly acquired tantalum supply chain.

1           239. Similarly, the plastic film used to make film capacitors may also be difficult for a new  
2 entrant to source. During the Class Period, film capacitors have become more difficult to produce  
3 because manufacturers have encountered difficulty in securing the necessary input materials. The  
4 volume of plastic film material needed for a production run of film capacitors is generally not large  
5 enough to make it profitable for chemical companies to manufacture the plastics. As a result, five types  
6 of plastic material now account for over 90% of film capacitor dielectrics: polypropylene, polyester,  
7 polyphenylene sulfide, polyethylene naphthalate, and PTFE. A limited number of dielectric grade resin  
8 manufacturers produce control the global production of these plastics (*e.g.*, principally DuPont, Teijin,  
9 Toray, Mitsui, and Borealis) and they make them in large batches only a few times a year. Likewise, the  
10 converters who apply special conductive coatings to the resin usually only run large batches a few times  
11 a year, and for some specialty film coatings, batches are run only once a year.

12           240. These hurdles, however, are not the only barriers a new market entrant faces. For a new  
13 market entrant consistently to manufacture and sell Capacitors competitively and to create and sustain  
14 a diverse product portfolio, it must invest in substantial research and development operations.  
15 Additionally, the new entrant must create and maintain global sales, marketing and distribution  
16 operations so that its products can reach Capacitor purchasers.

17           241. Ultimately, to be competitive, a new market entrant has to commit to significant financial  
18 and operational undertakings to establish itself in an industry where—absent price manipulation—  
19 profit margins are not large (and are trending lower) and large economies of scale must be achieved in  
20 order to reach profitability. A new market entrant seeking financing would need to convince investors or  
21 commercial lenders to loan it hundreds of millions of dollars to enter a market for commoditized, low  
22 profit margin products where profitability depends on achieving large economies of scale despite waning  
23 demand.

24           242. No notable new manufacturers have entered the aluminum, tantalum or film capacitors  
25 industry in well over a decade—other than through strategic alliances or acquisition of companies or  
26 business units already producing specific electrolytic capacitor products (*e.g.*, KEMET's 2012  
27 investment in NEC TOKIN through which KEMET now labels NEC TOKIN tantalum capacitors and  
28 other products as their own, and invoices and ships these re-sleeved products direct from NEC TOKIN

1 factories; AVX's acquisition of Nichicon's tantalum capacitor production operations; Hitachi AIC's sale  
2 of its tantalum capacitor production operations to Holy Stone in 2009; Holy Stone's sale of the former  
3 Hitachi AIC tantalum production operations to Vishay in 2014).

4 **C. Mutual Interchangeability of Defendants' Capacitors**

5 243. As noted earlier, capacitors of like capacitance, dielectric, and form factor are mutually  
6 interchangeable. A specific aluminum, tantalum or film capacitor manufactured by one of the  
7 Defendants therefore can be exchanged for a product of another Defendant with the same technical and  
8 operational specifications. There are no other defining physical characteristics that differentiate  
9 Defendants' various aluminum, tantalum or film capacitor products from each other.

10 244. Defendants are aware of the fungibility of their specific products. Indeed, Defendants  
11 have made product cross-reference materials available through their respective web sites, product  
12 catalogs, and/or other materials distributed to Capacitor purchasers. These cross-reference materials  
13 identify a specific competitor's Capacitors by either product number or technical and operational  
14 specifications, and then identify their own specific mutually interchangeable Capacitors.

15 245. In addition to many of Defendants' products being directly interchangeable, products  
16 with differing capacitance and form factor—depending on circuit design and certain technical  
17 requirements—can be substituted for each other.

18 246. Because Capacitor purchasers are aware of the mutual interchangeability of Defendants'  
19 respective Capacitors of like capacitance, dielectric and form factor, along with the possibility that  
20 certain products that are not directly fungible (*i.e.*, with differing technical tolerances and ratings) can  
21 still replace each other, Defendants present purchasers a broad portfolio of product choices that can  
22 meet their needs. Accordingly, absent Defendants' conspiracy, price would be the primary means of  
23 competition among Defendants in the aluminum, tantalum and film markets.

24 **D. Inelastic Demand**

25 247. Inelastic demand means that increases in price result in limited declines in quantity sold  
26 in the market. For a cartel to profit from raising prices above competitive levels, demand must be  
27 inelastic at competitive prices such that cartel members are able to raise prices without triggering a  
28 decline in sales revenue that would make the artificial price increase unprofitable. In simple terms,

1 demand is inelastic when the loss in volume arising from a price increase is small relative to the  
2 magnitude of the increase in price, allowing higher prices to increase revenues and profits despite loss of  
3 sales.

4         248. Demand is inelastic for aluminum, tantalum and film capacitors. When there are few or  
5 no substitutes for a product, purchasers have little choice but to pay higher prices in order to purchase  
6 these products. As set forth above, capacitors are a fundamental and necessary component in the  
7 electric circuits employed to make functional a wide variety of products within different end-markets.  
8 Capacitors perform a particular function that generally cannot be replicated through inclusion of other  
9 components. No other type of passive electrical component (*e.g.*, inductors, resistors) can serve as a  
10 substitute or a functional equivalent to a capacitor in an electric circuit. Accordingly, a purchaser that is  
11 either an OEM or an EMS Provider cannot design an electric circuit to bypass its need for a capacitor  
12 with a certain capacitance, dielectric and form factor.

13         249. Capacitors are also often a comparatively inexpensive cost input in electrical devices, so a  
14 purchaser facing higher prices for Capacitors would generally pay that increased price rather than forgo  
15 its opportunity to sell the device that includes the Capacitors. Notably, Capacitors bought for import to  
16 the United States are often ultimately used in the production of high-cost durable products.  
17 Accordingly, U.S. Capacitor purchasers are generally less price-sensitive than Asian purchasers and will  
18 pay higher prices for Capacitors in order to sell their final products or (for distributors) to meet demand.

19         250. Further, Capacitor purchasers facing strict deadlines tied to promised product delivery  
20 dates would pay the increased price for the specific Capacitors needed rather than lose out on the  
21 amount already invested in the completed products incorporating the Capacitors or risk losing business  
22 permanently by alienating downstream customers through missed deadlines.

23         251. Indeed, demand inelasticity for Capacitors is particularly acute when a given electric  
24 circuit or an electronic device requires not just a Capacitor, but one with a specific capacitance,  
25 dielectric and form factor that specifically fits the circuit's design. In that instance, a purchaser has no  
26 choice but to buy a specific Capacitor with the required technical and operational characteristics.

**E. Commoditization**

252. When a product is characterized as a commodity, market participants typically compete on the basis of price rather than other attributes such as product quality or customer service. Where competition occurs principally on the basis of price, it is easier to implement and monitor a cartel because price is more often objectively measurable and observable than non-price factors such as service.

253. Aluminum, tantalum and film capacitors are mass-produced through standardized manufacturing processes. They are designed according to standardized technical and operational characteristics for the various mutually interchangeable models Defendants manufacture.

254. The Capacitors at the center of Defendants' conspiracy are largely commoditized.

**F. Weak Demand**

255. Static or declining demand is one factor that makes the formation of a collusive arrangement more likely. Under normal business conditions, when faced with weak demand conditions, firms will attempt to maintain their sales by taking market share from competitors through decreasing prices. For this reason, firms faced with static or declining demand have a greater incentive to collude with competitors to avoid price competition and profit erosion.

256. The overall demand for aluminum, tantalum and film capacitors has declined since the early 2000s. Specifically, demand for aluminum and tantalum capacitors is closely tied to the demand for particular consumer electronics. Over the past decade, declining sales of desktop computers and television sets have weakened demand for passive electronic components and capacitors in particular. In 2012, for example, sales of televisions and desktop computers declined roughly 10% from the previous year, whereas demand for laptop computers declined only 2%. The impact of this decline in demand on Capacitor demand is evident in the static growth observed by the overall market and the negative growth trends reported in some segments by certain Defendants.

257. For instance, Nichicon's 2013 Annual Report states that the company's 21.7% decrease in capacitor sales "is attributed to declining demand for digital home electronics and inverter equipment." Similarly, AVX Corporation made the same observation in its 2013 Annual Report stating, "[o]verall sales prices for our commodity component products declined during 2013."

1           **G.     Excess Manufacturing Capacity**

2           258.     All things equal, if product manufacturers have excess capacity available to meet and  
3     exceed demand, prices in an unfettered market will decline. This is all the more so if demand is falling  
4     as well.

5           259.     An economist would expect that in a market in which product manufacturers have excess  
6     production capacity and demand is falling, prices would fall as well. If those conditions exist, and yet  
7     prices are increasing, economics suggest that cartel behavior could be the cause of this anomaly.

8           260.     Before and during the Class Period, Defendants had excess manufacturing capacity that  
9     allowed them to expand to meet global and U.S. demand for aluminum, tantalum and film capacitors.

10          261.     During the Defendants' regular cartel meetings, Defendants frequently disclosed to each  
11     other data regarding their respective current and projected production levels and manufacturing  
12     capacity availability. This information was also regularly shared among Defendants in their informal  
13     bilateral and multilateral meetings held in connection with or separate from the regular cartel meetings.

14          262.     Defendants also regularly disclosed to each other when they had excess capacity available  
15     to meet demand for the aluminum, tantalum and film capacitors or when they intended to produce less  
16     than the capacity available through their manufacturing facilities.

17           **H.     Large Number of Purchasers With Limited Purchasing Power**

18          263.     In the markets for aluminum, tantalum and film capacitors, Defendants each have  
19     historically sold and currently sell to a wide number of purchasers around the globe, the vast majority of  
20     whom during the Class Period made up no more than 10% of each Defendant's respective annual net  
21     sales, year over year.

22          264.     Defendants therefore had many reasons during the Class Period to coordinate pricing  
23     and market supply availability with each other within the auspices of their cartel.

24          265.     Defendants concertedly priced their respective Capacitors during the Class Period, and  
25     also provided lockstep quotation of production lead times to purchasers who tried to shop around for  
26     the best deal.

**I. Ease of Information Sharing Among Defendants**

266. Because of their common membership in trade associations and interrelated business relationships between certain executives, officers, and employees of the Defendants, there were many opportunities both before and during the Class Period for Defendants to collude by discussing competitive information regarding their respective aluminum, tantalum and film capacitors. The ease of communication was facilitated by the use of meetings, telephone conversations, e-mail messages, written correspondence and text messaging. Defendants took advantage of these opportunities to discuss, and agree upon, their pricing for the various types of capacitors they produce.

267. Industry trade associations make a market more susceptible to collusive behavior because they can provide a pretext under which conspirators can exchange sensitive company information such as pricing and market allocation.

268. A number of industry trade associations exist to which many of the Defendant manufacturers are members. The Japan Electronics and Information Technology Industries Association (“JEITA”) is a prominent trade organization that claims as members many of the Defendants, *e.g.*, Fujitsu, Hitachi Chemical, Matsuo, Nichicon, Nippon Chemi-Con, NEC TOKIN, Okaya, Panasonic, ROHM, Rubycon, Soshin, and TDK (the parent of TDK-EPC). It was formed in 2000 from two earlier organizations, the Electronic Industries Association of Japan and the Japan Electronic Industries Development Association.

269. JEITA is not the only industry trade association to which Defendants hold memberships. One of the largest trade associations for the industry, the Electronic Components Industry Association (“ECIA”), claims Defendants AVX, KEMET, Panasonic, ROHM and Vishay, among others, as members. According the ECIA, its members are granted access to “industry peers and executive networking,” and events where they can be “face-to-face with leaders of the authorized electronic components industry.” Likewise, the European Passive Components Industry Association provides similar networking opportunities, and it includes Defendants Nichicon, AVX and Panasonic among its members. KEMET and Panasonic are also members of the Power Sources Manufacturers Association (“PSMA”). Additionally, Defendants regularly attend the yearly Applied Power Electronics

1 Conference and Exposition (“APEC”), which has been held yearly since 1986 and is co-sponsored by  
2 other organizations, including the PSMA.

3 270. Aside from these formalized means of exchanging information among each other,  
4 Defendants have among them numerous informal links between their former and current colleagues, co-  
5 venturers, or partners employed by other Defendant companies. These links provided them the means  
6 and opportunity to exchange competitively sensitive information. Despite the billions of dollars of  
7 revenue generated by the capacitors industry worldwide, it is still a narrow segment of the overall  
8 electronic components industry, and the key decision-makers for the major producers had personal  
9 access to each other both directly and indirectly.

10 271. Many of the Defendants are either Japanese corporations or partially or wholly owned  
11 U.S. subsidiaries of Japanese corporations. Those Defendants that are not Japanese corporations have  
12 in part become involved in the Capacitors industry and, as a result, Defendants’ price fixing conspiracy,  
13 by acquiring Capacitors manufacturing operations or business units from Japanese corporations (*e.g.*,  
14 AVX, Vishay) or by co-venturing and/or building strategic Capacitors sales, manufacturing and  
15 marketing alliances with Japanese companies or companies with significant Capacitors-related Japanese  
16 operations (*e.g.*, EPCOS, KEMET). The geographic proximity of the Japan-based Defendants to each  
17 other help facilitate their ability to meet, converse, agree on a course of collusive action and execute on  
18 that course of action on a real-time basis.

19 272. Defendants can procure relatively detailed competitive information from industry  
20 analysts. The capacitor industry is analyzed by a limited number of market research firms that deal in  
21 detailed industry data. Each of these firms offers, for a fee, market data on pricing, supply, and other  
22 key indicators of market activity as well as market projections. The capacity and pricing information  
23 procured by these analysts is provided directly from industry participants, including certain of  
24 Defendants. Given the limited number of analysts that cover the capacitors industry, those that do are  
25 often provided highly detailed information and direct access to decision-makers for the capacitors  
26 manufacturers, including Defendants.

27 273. In fact, Defendants engaged in regular and continuous exchanges of confidential  
28 information regarding their respective Capacitors businesses throughout the Class Period.

1 **VI. CURRENT U.S. AND INTERNATIONAL ANTITRUST INVESTIGATIONS INTO**  
2 **ANTICOMPETITIVE PRACTICES IN THE CAPACITORS INDUSTRY**

3 274. Defendants' conspiracy to artificially raise, maintain or stabilize prices for aluminum,  
4 tantalum and film capacitors, as well as to restrict the output of such Capacitors, has only recently been  
5 discovered by law enforcement and regulatory authorities both in the United States and throughout  
6 Asia.

7 275. In April 2014, the DOJ Antitrust Division confirmed to industry sources that the  
8 government has opened an investigation into price fixing in the capacitors industry. The DOJ has  
9 already intervened in this case and has confirmed that its investigation into the capacitors industry is  
10 being conducted by the United States Attorney's Office for the Northern District of California.

11 276. Media and industry sources have reported that this investigation has been ongoing for  
12 some time, and that the DOJ has been coordinating its efforts to investigate the capacitors industry with  
13 the People's Republic of China's National Development and Reform Commission ("NDRC"), an  
14 agency entrusted with regulating price-related anticompetitive activity by the Chinese State Council.  
15 During March 2014, the NDRC conducted several raids on Chinese operations of Japanese capacitors  
16 manufacturers.

17 277. Media and industry sources indicate that a member of the cartel—Defendant  
18 Panasonic—has approached U.S. and Chinese authorities to self-report its involvement in the  
19 conspiracy and to request prosecutorial leniency and amnesty.

20 278. ACPERA provides leniency benefits for a participant in a price-fixing conspiracy that  
21 voluntarily admits its conduct to the DOJ. A November 19, 2008 presentation on the DOJ's website  
22 explains that "[a conditional leniency] applicant must admit its participation in a criminal antitrust  
23 violation involving price fixing...before it will receive a conditional leniency letter." One of the leniency  
24 benefits for a conspirator that is accepted into the ACPERA program is that the applicant is not charged  
25 with a criminal offense and is not required to plead guilty to criminal charges.

26 279. By applying for leniency through ACPERA, Panasonic would have had to admit to price  
27 fixing in the Capacitors industry.  
28

1           280. On or about July 2, 2014, the NDRC publicly confirmed its investigation into the  
2 capacitors industry though a report published in the China Price Supervision and Antitrust Journal and  
3 written by Xu Kunlin, Director-General of the NDRC's Price Supervision and Antimonopoly Bureau.  
4 In this report, Xu revealed that one Japanese capacitor company self-reported its cartel activity in  
5 March 2014, and that this company along with other Japanese capacitor manufacturers held regular  
6 conferences to exchange market information related to their products. Media and industry sources have  
7 quoted Xu as saying that the Japanese manufacturer seeking amnesty would receive complete leniency.

8           281. The United States and the PRC are not the only countries investigating price fixing in the  
9 capacitors industry.

10           282. Media and industry sources report that the Japan Fair Trade Commission ("JFTC") has  
11 been investigating price fixing of aluminum and tantalum capacitors. On or about June 24, 2014, the  
12 JFTC conducted raids of approximately eight capacitors manufacturers believed to be members of the  
13 cartel, including Panasonic, NEC TOKIN, Hitachi Chemical, Nichicon and Nippon Chemi-Con.  
14 According to media reports citing sources close to the JFTC's investigation, sales executives and other  
15 officials from the raided companies discussed and agreed upon price increases for capacitors for at least  
16 several years during the Class Period.

17           283. Since the beginning of 2014, investigations into the capacitors industry also have been  
18 opened by the South Korean Fair Trade Commission, the Taiwanese Fair Trade Commission, and the  
19 European Commission's competition authority.

20           284. To date, few of the Defendants have commented about their being subject to these raids.  
21 Defendant Panasonic/SANYO has confirmed that it was raided by both the JFTC and South Korean  
22 authorities.

23           285. Defendant NEC TOKIN has confirmed that it has been contacted or raided by  
24 American, Chinese and European authorities and has stated that it is cooperating with authorities.

25           286. Defendant KEMET—the holder of 34% equity and 51% voting interests in NEC TOKIN,  
26 as well as an option to acquire it outright—disclosed the following about NEC TOKIN its 2014 annual  
27 report:

28                   In March and April, 2014, NEC TOKIN and certain of its subsidiaries  
                    received inquiries, requests for information and other communications

1 from government authorities in China, the United States, the European  
2 Commission, Japan and South Korea concerning alleged anti-competitive  
3 activities within the capacitor industry. According to NEC TOKIN, the  
investigations are at an early stage. As of this date, NEC TOKIN has not  
recorded an accrual as a result of the investigations.

4 287. Defendant TOSHIN KOGYO has confirmed that it has been contacted by Japanese,  
5 Chinese and Taiwanese authorities.

6 288. For some Defendants—especially Panasonic/SANYO—these investigations are not the  
7 first time they have been scrutinized by law enforcement and competition authorities for  
8 anticompetitive behavior. These Defendants have a documented history of cartel behavior and antitrust  
9 price-fixing recidivism.

10 289. Both Panasonic and SANYO have been investigated by the DOJ in the last several years  
11 for participating in price-fixing conspiracies involving automotive parts and lithium ion battery cells.

12 290. Panasonic pled guilty for its role in a nearly six and a half year-long conspiracy to fix  
13 prices of switches, steering angle sensors, and automotive high intensity discharge ballasts installed in  
14 cars sold in the United States and elsewhere.

15 291. Panasonic agreed to pay a \$45.8 million criminal fine, and a number of its executives pled  
16 guilty in exchange for limited fines and imprisonment.

17 292. SANYO agreed to plead guilty for its role in a year and a half long conspiracy to fix prices  
18 on cylindrical lithium ion battery cells sold worldwide for use in notebook computer battery packs, and  
19 agreed to pay a \$10.731 million criminal fine.

20 293. Additionally, Panasonic has been named as a defendant by the EC Competition  
21 Authority in an investigation into CRT televisions and monitors. In related U.S. civil litigation  
22 regarding price-fixing of CRT televisions and monitors, Panasonic agreed to pay \$17.3 million to settle  
23 claims brought by direct purchasers. Panasonic is also a defendant in U.S. civil litigation regarding price  
24 fixing among TFT-LCD flat panel display manufacturers.

## 25 **VII. FRAUDULENT CONCEALMENT**

26 294. Plaintiffs have had neither actual nor constructive knowledge of the pertinent facts  
27 constituting their claims for relief asserted herein, despite their diligence in trying to discover such  
28 facts. Plaintiffs and members of the Direct Purchaser Class could not have discovered through the

1 exercise of reasonable diligence the existence of the conspiracy alleged herein until in or about March  
2 2014, when investigations by the DOJ and competition and law enforcement authorities in the People's  
3 Republic of China, Japan, Taiwan, South Korea and the European Commission were first made public.

4 295. Defendants engaged in a self-concealing conspiracy that did not give rise to facts that  
5 would put Plaintiffs or the Direct Purchaser Class on inquiry notice that there was a conspiracy among  
6 Defendants to artificially fix, raise, maintain or stabilize prices for aluminum, tantalum and film  
7 capacitors, as well as to restrict their respective output by quoting unjustifiably long production lead  
8 times. In fact, Defendants had secret discussions about price and output and, in furtherance of the  
9 conspiracy, they agreed not to discuss publicly the nature of the scheme.

10 296. Defendants did not take or distribute official minutes or record the secretive cartel  
11 meetings discussed herein because they recognized competitively sensitive information was exchanged  
12 among themselves during these meetings. Any disclosure of the matters, information and data  
13 discussed in the many meetings held among the Defendants over more than a decade could expose the  
14 conspiracy, thereby frustrating the cartel's operation and effectiveness and exposing its members to  
15 criminal and civil liability in various jurisdictions, including the United States.

16 297. A 2006 email from a SANYO employee expressed Defendants' intent to keep their  
17 collusive actions secret and how the cartel's members intended to do so: "[E]xchanging information is  
18 useful . . . . However, it maybe [*sic*] become a double-edged sword at times. To the extent possible, try  
19 to exchange verbally so that no evidence is left behind. Especially pricing figures and important  
20 presentation materials."

21 298. Defendants' records regarding their secretive cartel meetings exist in the form of emails,  
22 summaries and notes taken or drafted by Defendants' employees in attendance at these meetings.  
23 These emails, summaries and notes recounting these meetings and Defendants' unlawful agreements  
24 were only circulated among a limited number of their fellow employees who were responsible at their  
25 respective companies for implementing the cartel's anticompetitive actions. When circulated, these  
26 emails, summaries and notes regularly included instructions from their authors to distribute them  
27 internally with the utmost sensitivity due to the competitively sensitive information contained within  
28 them.

1           299. For example, a SANYO employee who regularly took notes at the meetings he attended  
2 on this company's behalf circulated these notes via email among SANYO employees and leadership  
3 responsible for implementing the cartel's anticompetitive actions by giving the recipients introductory  
4 admonitions to take "the utmost care in handling [these] report[s]" because the "gathering[s] [*i.e.*, the  
5 cartel's meetings] should not be disclosed to the public."

6           300. Similarly, in other communications exchanged internally among SANYO employees  
7 coordinating pricing with NEC-TOKIN employees, email recipients were instructed "Once you read  
8 this email, please delete it."

9           301. Within Defendants' secretive communications, they frequently attempted to conceal  
10 details of their collusive discussions and agreements by using coded language to identify the Defendant  
11 cartel members and their respective employees involved in discussions had and agreements made in  
12 furtherance of the conspiracy.

13           302. Defendants also gave pretextual justifications for the pricing changes and the reductions  
14 in output that occurred during the Class Period.

15           303. Indeed, Defendants relied on a variety of market-based explanations for pricing changes  
16 and reductions in output through quoting increased production lead times in order to conceal the  
17 conspiracy.

18           304. With regard to aluminum and film capacitors, Defendants often attributed price changes  
19 and increased production lead times to difficulties procuring the necessary raw materials to manufacture  
20 their products.

21           305. For example, in 2010, Defendants Nichicon, Nippon Chemi-Con and Panasonic each  
22 made a number of public statements to industry and technology media in which they attributed supply  
23 limitations and price quote adjustments to shortages of aluminum foil and increasing costs for other raw  
24 materials required for manufacturing.

25           306. With regard to tantalum capacitors, Defendants often attributed price changes and  
26 increased production lead times to difficulties procuring the necessary tantalum to manufacture their  
27 products.  
28

1           307. For example, in 2010 and 2011, Defendants Vishay and Panasonic each made a number  
2 of public statements to industry and technology media attributing supply limitations and pricing  
3 adjustments for their tantalum electrolytic capacitors to raw materials supply issues.

4           308. These explanations are belied by industry and other media reports that criticize the lack  
5 of true visibility into the market for tantalum, highlight tantalum capacitor manufacturers' close ties and  
6 business arrangements with tantalum mining operations, and recognize manufacturers' efforts to  
7 process certain raw materials in-house.

8           309. Aside from the product-specific explanations noted above, Defendants made numerous  
9 misleading excuses to justify their price increases including alleged labor shortages and shipping delays  
10 due to weather in Asia.

11           310. More specifically, from 2011 to 2013, Defendants Hitachi Chemical, Nippon Chemi-  
12 Con, Nichicon, Rubycon and ELNA attributed their production delays to the lasting effects of the 2011  
13 Tohoku earthquake and tsunami in eastern Japan.

14           311. Further, 2011, Defendants NEC TOKIN and ROHM attributed production delays to  
15 flooding in Thailand.

16           312. Defendants' misleading statements were designed to conceal their conspiracy and lull  
17 Plaintiff and members of the Direct Purchaser Class into believing that the price changes and extended  
18 production lead times were the normal result of competitive and economic market forces, rather than  
19 the product of collusive, unlawful efforts.

20           313. Defendants' explanations for price changes and extended lead times were pretextual, and  
21 materially false or misleading, and served only to cover up Defendants' conspiracy. As a result of  
22 Defendants' fraudulent concealment of their conspiracy, the running of any statute of limitations has  
23 been tolled with respect to any claims that Plaintiffs and the Direct Purchaser Class members have as a  
24 result of the anticompetitive and unlawful conduct alleged herein.

25 **VIII. EFFECTS OF DEFENDANTS' CONSPIRACY ON U.S. SALES OF ALUMINUM,**  
26 **TANTALUM AND FILM CAPACITORS AND INJURY TO PLAINTIFFS AND THE**  
**DIRECT PURCHASER CLASS**

27           314. Defendants' combination and conspiracy as set forth herein has had the following effects,  
28 among others:

- 1 a. Restraint on price competition among Defendants in the sale of their respective  
2 aluminum, tantalum and film capacitors during the Class Period to United States  
3 purchasers;  
4 b. Prices for aluminum, tantalum and film capacitors sold by Defendants during the  
5 Class Period to United States purchasers have been raised, fixed, maintained, and  
6 stabilized at artificial and non-competitive levels;  
7 c. The supply of Defendants' aluminum, tantalum and film capacitors available for sale  
8 during the Class Period to United States purchasers has been artificially and  
9 unjustifiably restrained; and  
10 d. United States purchasers have been deprived of the benefit of free and open  
11 competition on the basis of price in the market for aluminum, tantalum and film  
12 capacitors.

13 315. As a direct and proximate result of Defendants' anticompetitive and unlawful conduct,  
14 Plaintiffs and the Direct Purchaser Class have been injured in their business and property in that, during  
15 the Class Period, they paid artificially inflated prices for the aluminum, tantalum and film capacitors  
16 they purchased directly from Defendants.

17 316. Plaintiffs and the Direct Purchaser Class have been damaged as measured by the full  
18 amount of the overcharges that they paid in an amount subject to proof and to be determined at trial.

19 317. The foregoing allegations are likely to have evidentiary support after a reasonable  
20 opportunity for discovery.

21  
22 **CLAIM FOR RELIEF**

23 **RESTRAINT OF TRADE IN VIOLATION OF**  
24 **THE SHERMAN ACT § 1**  
25 **15 U.S.C. § 1**  
**(Alleged against all Defendants)**

26 318. Plaintiffs hereby repeat and incorporate by reference each proceeding and succeeding  
27 paragraph as though fully set forth herein.

28 319. This claim is pleaded as to all Defendants.

1           320. Beginning some time before but no later than January 1, 2003, the exact date being  
2 unknown to Plaintiffs and the Direct Purchaser Class and exclusively within the knowledge of  
3 Defendants, Defendants entered into a continuing combination or conspiracy to unreasonably restrain  
4 trade and commerce in violation of Section 1 of the Sherman Act (15 U.S.C. § 1) by artificially reducing  
5 or eliminating competition for the pricing of aluminum, tantalum and film capacitors directly sold to  
6 United States purchasers.

7           321. In particular, Defendants have combined and conspired to raise, fix, maintain or stabilize  
8 the prices of aluminum, tantalum and film capacitors sold to United States purchasers during the Class  
9 Period.

10          322. Additionally, Defendants have combined and conspired to set artificial and unjustified  
11 production lead times to limit available supply of aluminum, tantalum and film capacitors sold to United  
12 States purchasers during the Class Period.

13          323. As a result of Defendants' and their co-conspirators' unlawful conduct and acts taken in  
14 furtherance of their conspiracy, prices for aluminum, tantalum and film capacitors sold to purchasers in  
15 the United States during the Class Period were raised, fixed, maintained or stabilized at artificially  
16 inflated levels.

17          324. The combination or conspiracy among Defendants consisted of a continuing agreement,  
18 understanding and concerted action among Defendants and their co-conspirators.

19          325. For purposes of formulating and effectuating their combination or conspiracy,  
20 Defendants and their co-conspirators did those things they combined or conspired to do, including:

- 21           a. Participating in meetings and conversations to discuss their respective prices and  
22               supply of aluminum, tantalum and film capacitors and how they could effectively  
23               coordinate their actions to restrain trade for these products;
- 24           b. Communicating in writing and orally to raise, fix, maintain or stabilize prices for  
25               aluminum, tantalum and film capacitors, and to quote artificial and unjustified  
26               production lead times to limit available supply of these capacitors;

- 1 c. Agreeing to coordinate and manipulate the prices and available supply of these  
2 Capacitors directly sold to United States purchasers in a manner that deprived these  
3 purchasers of free and open price competition;  
4 d. Issuing or signaling to each other price announcements, price quotations and  
5 production lead times for specific aluminum, tantalum and film capacitors in  
6 accordance with the agreements Defendants reached among themselves;  
7 e. Selling aluminum, tantalum and film capacitors to United States purchasers at  
8 noncompetitive and artificial prices Defendants collusively determined; and  
9 f. Providing pretextual justifications to purchasers and the public to explain any raises,  
10 maintenance, or stabilization of the prices for Defendants' aluminum, tantalum and  
11 film capacitors.

12 326. Defendants' anticompetitive and unlawful conduct is illegal per se.

13 327. As a result of Defendants' anticompetitive and unlawful conduct, Plaintiffs and members  
14 of the Direct Purchaser Class have been injured in their businesses and property in that they have paid  
15 more for the aluminum, tantalum and film capacitors that they purchased during the Class Period than  
16 they otherwise would have paid in the absence of Defendants' conduct.

17  
18 **DEMAND FOR JUDGMENT**

19 **WHEREFORE**, Plaintiffs request that the Court enter judgment on their behalf and on behalf  
20 of the Direct Purchaser Class defined herein, by adjudging and decreeing that:

21 A. This action may proceed as a class action, with Plaintiffs each serving as a Direct  
22 Purchaser Class Representative, and with Interim Direct Purchaser Class Counsel as defined by the  
23 Court's October 31, 2014 Order Appointing Interim Direct Purchaser Class Counsel (Dkt. 319) to serve  
24 as the Direct Purchaser Class Counsel under Fed. R. Civ. P. 23(g);

25 B. Defendants have combined and conspired in violation of Section 1 of the Sherman Act,  
26 15 U.S.C. § 1, and that Plaintiffs and the Direct Purchaser Class have been injured in their business and  
27 property as a result of Defendants' violations;  
28

1 C. Plaintiffs and the Direct Purchaser Class are entitled to recover damages sustained by  
2 them, as provided by the federal antitrust laws under which relief is sought herein, and that a joint and  
3 several judgment in favor of Plaintiffs and the Direct Purchaser Class be entered against Defendants in  
4 an amount subject to proof at trial, which is to be trebled in accordance with Section 4 of the Clayton  
5 Act, 15 U.S.C. § 15;

6 D. Plaintiffs and the Direct Purchaser Class are entitled to pre-judgment and post-judgment  
7 interest on the damages awarded them, and that such interest be awarded at the highest legal rate from  
8 and after the date this class action complaint is first served on Defendants;

9 E. Plaintiffs and the Direct Purchaser Class are entitled to equitable relief appropriate to  
10 remedy Defendants' past and ongoing restraint of trade, including:

- 11 1. A judicial determination declaring the rights of Plaintiffs and the Direct Purchaser  
12 Class, and the corresponding responsibilities of Defendants; and
- 13 2. Issuance of a permanent injunction against Defendants and their parents,  
14 subsidiaries, affiliates, successors, transferees, assignees and the respective officers,  
15 directors, partners, agents, and employees thereof and all other persons acting or  
16 claiming to act on their behalf from continuing and maintaining the conspiracy or  
17 agreements alleged herein;

18 F. Defendants are to be jointly and severally responsible financially for the costs and  
19 expenses of a Court-approved notice program through post and media designed to give immediate  
20 notification to the Direct Purchaser Class;

21 G. Plaintiffs and the Direct Purchaser Class recover their costs of this suit, including  
22 reasonable attorneys' fees as provided by law; and

23 H. Plaintiffs and the Direct Purchaser Class receive such other or further relief as may be  
24 just and proper.  
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